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ABSTRACT

This report presents the preliminary findings of an in-depth study of small samples of Japanese, Chinese, Korean, Filipino, and Hawaiian children and their families living in the Los Angeles metropolitan area. Children's learning characteristics and style as well as their socialization for schooling prior to their entry into formal public schools are investigated. Section 1 reviews the literature, while Section 2 reviews the methods used. Section 3 is divided into seven parts. Each part presents a preliminary analysis of the data collected. Child testing, observations of test-taking behavior, mother-child observations, and home interviews are described. Section 4 offers recommendations for future inquiry. Recommendations are divided into two general areas. Firstly, project reports are outlined, and then directions for future inquiry are suggested. Among the former are patterns of learning characteristics in each ethnic group, patterns of family socialization, mother-child interaction, and language behavior of child. Among the latter are a replication of the present study, studies of learning characteristics, studies of Asian American families, and the relationships between verbal and nonverbal assessments of competence. (Author/AM)

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ASIAN AMERICAN EDUCATION PROJECT

PRELIMINARY REPORT

An Inquiry into Asian American Preschool Children and Families in Los Angeles

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Kenyon S. Chan
Ruby Takanishi
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Los Angeles
July 1975

INTRODUCTION

This report presents the preliminary findings of the Asian American Education Project (AAEP). The Project was formed to provide descriptive information on four- and five-year-old children of Asian and Pacific Island ancestry. Specifically, the Project was an in-depth study of small samples of Japanese, Chinese, Korean, Pilipino,[1] and Hawaiian children and their families living in the Los Angeles metropolitan area.[2] We investigated children's learning characteristics and style as well as their socialization for schooling prior to their entry into formal public schools.

Research and writing on American education has focused predominantly on the influence of schools and teachers on the education process. Thus education is seen as taking place mainly within schools. However, as Bloom (1972) has pointed out, our "innocence in education" is being challenged by research on the relation between the school system and other subsystems of the society. Education is thus seen as part of the larger social system with linkages with other agencies of socialization such as the family.

The school and the family are two primary socialization agencies

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[1] In recent years the term "Pilipino" has gained acceptance among persons of Pilipino ancestry and reflects a group identity and pride in their cultural heritage.

[2] The Asian American community in Los Angeles is composed of a coalition of Chinese, Hawaiian, Japanese, Korean, Philipino, and Samoan groups. Recently, these groups have been referred to collectively as Asian American and Pacific Island people.

in the experience of preschool children. Research on the relationship between the school and the family has been vigorous and productive. Existing evidence points to the role of parents and the home as educational environments which are related to language development, ability to learn from adults, attitudes toward school learning, and aspirations toward educational attainment and careers (Bloom, 1972). Relatively less conceptual and empirical work has focused on the degree of congruence between the culture and values of the school and that of the family (Getzels, 1969) and on the processes by which families socialize for the educability of their children (Dryer, 1972).

Educability refers to the cluster of orientations, skills, and motivation that are related to the child's ability and willingness to learn in the school situation (Shipman & Bussis, 1968). More empirical work is needed on the possible interaction between socialization patterns in the family and the educational expectations of the school and the resulting degree of congruence between the two agencies. The work of Bernstein (1961) in England, of Hess and Shipman (1966) with Black mothers in America, and of the ETS-OEO Longitudinal Project (1968) represents efforts in this area. However, almost no work has been done in this area with Asian American minority populations.

Asian Americans are of special interest as a nonwhite minority group. The Japanese and Chinese are highly represented, in relation to their proportion in the population, in measured school achievement relative to whites and other minorities (Okada, Cohen, and Mayeske, 1969) and in educational attainment (Rosenwaike, 1973). The processes by which this observed achievement and attainment occur in American society remain largely unexplored. Considerable research activity has

focused on the Japanese in Japan (De Vos, 1973), while there remains a paucity of studies on Japanese Americans (Norbeck & De Vos, 1972). The extant literature focuses on demographic and status description without sufficient attention to processes which may be related to observed characteristics (e.g. Sue & Kitano, 1973). Hence, we undertook this research to explore learning characteristics and family socialization processes in a small sample of Asian American children in the summer prior to their entry into kindergarten.

The Project, however, must be considered only the first step in understanding the characteristics of the ethnic groups which participated. The review of literature in Section I of this report will show that present knowledge of Asian American groups is very limited and often involves the extension of conceptualizations and frameworks developed on Western samples. Thus, rather than formulating and testing a priori hypotheses, the Project attempted to obtain information on a limited number of children and their families in order to provide a basis on which future hypotheses-testing studies may be planned. The results reported in this preliminary report and in future reports of this project are in no way conclusive. Rather, they should induce other researchers to undertake investigations to extend the groundwork which we have attempted to lay.

Section II outlines the methods employed in the study. We discuss the limitations of the present investigation and related to this the caution with which our findings must be viewed. This section also provides information on community research techniques used, pointing to the critical importance of community advisors and liaison workers in ethnic research. Sampling, selection, and training of field

workers and data collection procedures are also described.

Section III of this report is divided into seven parts. Each part presents a preliminary analysis of the data collected. Child testing, observations of test-taking behavior, mother-child observations, and home interviews are described.

Finally, Section IV offers recommendations for future inquiry. In view of the large data set reported in Section III, this section may seem incomplete. However, this preliminary report provides an overview of the Project's activities after the first year. This report is the first of a series of reports which will explore the interrelationships of the demographic and independent variables to the observations and testing conducted with the children and their families. Since this is a preliminary report, readers are requested not to quote the contents without permission of the authors.

SECTION I

REVIEW OF RELATED RESEARCH

Much of the current research on Asian Americans describes cultural and historical forces such as acculturation, racism, and value transmission which are hypothesized to influence socio-psychological functioning (e.g., Kitano, 1974; Matsumoto, Meredith, & Masuda, 1970; Meredith & Meridth, 1973; Sue, 1973; Young, 1972). Little empirical work, however, has focused on specific processes which may account for observed personality, academic, and economic characteristics of Asian Americans. Secondly, the literature does not provide much information on Asian American children's learning styles and orientations toward school prior to their entry into formal schooling. This review will summarize the recent literature describing educationally related characteristics of Asian American children and general hisotrical and cultural factors as well as specific child-learning practices which appear to be related to their development.

Japanese

The Japanese, numbering 591,290 persons according to the 1970 census, constitute the largest Asian American subgroup. Approximately 72 percent of all Japanese Americans live in Hawaii and California. Between 1960 and 1970, the Japanese American population increased by 27 percent, one-third of which represented new immigrants. The rate of Japanese immigration to the United States since 1970 has remained low, averaging 5,000 persons per year ("Asian American: Facts and Figures,"

1975). Although one-third of the Japanese American population are among the upper-income levels of the country, one-third are also among the low income groups, many representing the elderly poor (Issei). The national rate of poverty among Japanese American families is six percent as compared to the United States average of 11 percent.

Kitano (1974) suggests that Japanese Americans' rapid acquisition of American culture has contributed to their being labeled America's "model minority." A second factor is their upward mobility in terms of social status; they constitute one of the most highly educated groups in the United States, and their school achievement continues to be high (Kitano, 1974).

Immigration history. Japanese immigration to the United States began during the 1890's when hostility toward the Chinese immigrants who preceded them was pervasive. Consequently, the Japanese faced many of the same restrictions that were imposed on the Chinese. The first immigrants were mainly young males imported for cheap agricultural labor (Kitano, 1969). Though many of these first-generation immigrants, or Issei, became agricultural laborers, others found employment in small business or established shops of their own. Those who stayed in the United States sent for wives and established families, making their communities more permanent (Kitano, 1974). The second generation, or Nisei, born between 1910 and 1940, became more acculturated to the United States than their Issei parents. The Sansei, or third generation, were generally born after World War II. Members of this generation embody diverse values and expectations, the older retaining those of their parents, the younger often expressing more militant ideas.

Cultural factors. Three general features of Japanese American

culture have been identified as major influences on psychological development: acculturation, child-rearing practices, and family structure. Kitano (1974) states that acculturation, hastened by World War II evacuation and resettlement, has been the most powerful single influence on Japanese American behavior. The effects of acculturation on Japanese American values and attitudes have been studied in children (Goodman, 1957), college students (Berrien, Arkoff, & Iwahara, 1967), and adults (Matsumoto, Meredith, & Masuda, 1970). Japanese child-rearing practices are described as involving less direct confrontation than American techniques, low verbosity but high control, provision of outside stimuli, diversion of the child's attention, and shaping of cooperation by reference to its effects on others. Parents control children's behavior by evoking fear of personal ridicule and shame on the family as primary sanctions and by appealing to obligation and duty. Indirect communication, inferences, and unstated feelings characterize husband-wife interaction (Kitano, 1974). Kitano (1973) describes the Japanese family as intact and vertically structured with well-defined roles. Individuals within the family occupy set positions and learn various techniques in order to interact with individuals in higher and lower positions of power.

Consistent with the forces of family structure and child-rearing practices, studies of Japanese American personality characteristics (Arkoff, 1959; Meredith, 1965) describe Japanese as less aggressive, exuberant, and domineering and more deferent, conscientious, and reserved compared to Anglo-Americans. Kitano (1974) suggests that these traits can be interpreted as a product of Japanese socialization and culture or as a result of American racist sterotyping.

A series of studies by Caudill and his associates on maternal care and infant behavior in Japanese American, Anglo-American, and Japanese families relates specific maternal behaviors to children's development. Caudill (1971; Caudill & Weinstein, 1969) found that American mothers engage in more lively chatting to their babies, resulting in a higher level of vocalization in Anglo-American infants. Caudill observed Japanese mothers to do more vocal lulling and rocking, fostering more physically passive infants. The author suggests that different styles in caretaking teach infants at an early age to behave in culturally distinctive ways. Comparable data obtained on Japanese American mothers (Sansei) and their infants (Yonsei) indicate that their patterns are closer to those of Anglo-Americans than to those of the Japanese (Caudill & Frost, 1972).

Learning style. Little empirical work has been done to provide an adequate description of Japanese American children's learning style. An early study by Darsie (1926) comparing Anglo and Japanese American children in California suggested that Japanese American children were "inferior" to Anglos in mental processes involving memory and abstract thinking. The data indicated, however, that the Anglo-American children's superiority was generally limited to specifically linguistic tests; Japanese American children were equal or superior on tests using concrete, nonverbal, visually-presented stimuli. Darsie also found that teachers rated Japanese American children as being less self-confident, more sensitive to approval, and more emotionally stable; inferior in general intelligence, desire for knowledge, and geography and history; and superior in artistic pursuits compared to their Caucasian peers.

Following World War II internment and the Japanese people's apparently rapid acculturation into American society, studies focused on Japanese American "success." Ayabe and Santo (1972) compared Japanese and Chinese second-graders with Pilipino, Hawaiian, and Samoan elementary school children in Hawaii on conceptual tempo. Results indicated that Chinese and Japanese children with fast conceptual tempo produced significantly fewer errors than fast-tempo children of other ethnicities. The authors suggest that Japanese and Chinese American success may be due to their cultural values of perseverence, restraint, and patience leading to greater accuracy in performance. Sloggett, Gallimore, and Kubany (1970) present data indicating that Japanese American high school students in Hawaii score higher in need achievement than low- and high-achieving Hawaiian students. There is also some evidence that Japanese mothers' higher expectations of success for their sons may foster boys with high achievement motivation (McClelland, 1961).

Chinese

Chinese Americans represent the second largest Asian American subgroup, with a population reported by the 1970 census at 435,062. Over half of the Chinese population live in the Western states, 39 percent in California alone. Almost 20 percent reside in New York. During the decade between 1960 and 1970, the Chinese American population increased by 84 percent, with two-thirds of the increase consisting of new immigrants. Of the Chinese in San Francisco, 52 percent are recent immigrants; 54 percent of the Chinese in Los Angeles and 67 percent of the Chinese in New York City are foreign-born. The

enrollment rates of college-age Chinese Americans are approximately double those of the total college-age population ("Asian American: Facts and Figures," 1975).

Immigration history. The Chinese were the first Asians to immigrate to the United States in large numbers. Their coming to the West Coast in the 1840's was encouraged by economic depression and social unrest in China and by overpopulation in certain provinces (Purcell, 1965; Sue, 1973). Californians initially welcomed the Chinese immigrants because of the demand for cheap labor during the period of high inflation brought on by the gold rush (Kitano, 1974). Chinese immigrants quickly filled domestic service jobs and were hired to help build the transcontinental railroad. As the labor market diminished, however, and the Chinese began to enter into gold mining, anti-Chinese sentiment emerged. American hostility toward the Chinese was well formed by 1852 and continued through the 1860's and 70's, during which time many Chinese were assaulted and killed by white mobs. The anti-Chinese movement culminated in passage of the Federal Chinese Exclusion Act of 1882 which was made permanent in 1902 and not repealed until the beginning of World War II when China became an American ally (Sue, 1973).

Problems faced by more recent Chinese immigrants are reflected in their employment statistics. Despite the fact that professional occupations comprise the largest category of employment (29 percent) for Chinese men ("Asian American: Facts and Figures," 1975), many who were highly trained professional and managerial workers in China have been forced to occupy low-skill, low-paying positions in the United States ("Asian American: Facts and Figures," 1975; Chun-Hoon, 1973).

A larger percentage of Chinese American men (41 percent) earn an annual income under $4,000 compared to the overall percentage in the United States (31 percent), reflecting serious economic problems among older Chinese and new immigrants employed in low-paying jobs ("Asian American: Facts and Figures," 1975).

Cultural factors. Several authors have described general features of Chinese American culture as playing significant roles in psychological development. For example, Lee (1952) investigated the relationship between parent-child cultural conflict and Chinese American delinquency; Kung (1962) and Hsu (1971) described Chinese American family and kinship patterns as characterized by obedience and cooperation. Sue (1973) suggests that a consistent relationship exists between Chinese and Japanese American personality characteristics, academic abilities, and vocational interests and broad historical and cultural factors of continuing white racism and culture conflicts experienced in the United States. Sue and Kirk (1972) present several findings in this regard from their study of personality differences between Chinese American college students and those of other ethnicities. Chinese students tend to score higher on quantitative and lower on verbal sections of ability tests. They express more interest in physical sciences and technical and business occupations and less interest in social services, aesthetic-cultural occupations, and jobs requiring verbal skills. They also prefer practical and concrete versus theoretical and abstract approaches to life and are more conforming and less extroverted compared to other students.

The authors offer cultural explanations based on language, values, and family structure for differences in test results. First,

Chinese American students' bilingual background may account for lower verbal performance. Secondly, the families' tendency to restrain strong feelings may lead to compensatory expression reflected in higher quantitative scores. Third, parents may have encouraged their children to seek occupations providing economic and social mobility. Finally, Sue and Kirk (1972) suggest that family emphasis on tradition, conformity, respect for authority, and submergence of individuality foster greater anxiety and less tolerance for ambiguity. Emphasis on family loyalty, control of behavior through guilt and shame, and distrust of outsiders contributes to the seeming absence of concern for social welfare.

Other investigators have attempted to define more specifically the cultural factors that significantly influence Chinese American behavior. Kriger and Kroes (1972) found Chinese mothers more restrictive in childrearing attitudes than Jewish and Protestant mothers. Borke and Sue (1972) compared Chinese mothers and their kindergarten and second-grade children in Taipei with American mother-child pairs. They describe Chinese parents as using external social controls, fostering children who by age 7 do not internalize the feeling that anger is wrong and hence express more anger than American children. American parents socialize their children to respond to frustration with sadness rather than anger. Steward and Steward (1973) observed Anglo, Mexican, and Chinese-American mothers teaching their preschool-age children a sorting and a motor-skill game. The investigators found that Chinese American mothers offer significantly less input (in terms of number of teaching loops initiated and completed) than Anglo American mothers, but gave more enthusiastic positive feedback than

Anglo and Mexican American mothers. Chinese American mothers' teaching style was also characterized by specificity of instructions.

Learning style. Data from early studies investigating the tested intelligence of Chinese American children suggested that no striking differences exist in intelligence (I.Q.) between Chinese-and Anglo-American children (Yeung, 1921). Chinese American children score significantly higher on non-verbal (99.3) than verbal (85.2) measures of intelligence (Symonds, 1924b). They are superior in concrete problem-solving and equal to Anglo American children in visual memory tests where language factors are minimized (Graham, 1926). Caucasian and Chinese high school students in Hawaii evidence higher perofrmance on intelligence tests than their Japanese, Hawaiian, Pilipino, and Korean peers (Livesay, 1942).

Little work has been done describing the more qualitative aspects of Chinese American children's learning style. Symonds (1924a) found that attendance at Chinese language school has a negligible effect on acquisition and use of English language in elementary school children. In a later study, Hsieh, Shybut, and Lotsof (1969) characterized Chinese high school students in Hong-Kong as higher in external locus of control than Chinese American high school students, who in turn demonstrated higher external control than their Anglo American counterparts. The authors attribute these differences in locus of control to the effects of acculturation, describing Chinese culture as situation-centered and emphasizing an unalterable and unpredictable life. American culture, on the other hand, emphasizes self-reliance, independence, and uniqueness.

Pilipinos

Pilipino Americans represent the third largest Asian American subgroup. Although the 1970 census reported a population of 343,060 persons, an additional 90,000 Pilipinos have immigrated since 1970. Pilipinos are the largest Asian group immigrating to the United States at the present time. Over two-thirds of the Pilipino American population live on the West Coast, 40 percent in California and 28 percent in Hawaii. Pilipino American high school graduation and college enrollment rates are below the national average. Pilipino men also have lower incomes than men in the total population. Kitano (1974) describes Pilipinos as the most economically disadvantaged Asian group in the United States in terms of annual income and schooling.[1]

Immigration history. After the 1898 annexation of the Philippine Islands by the United States, Pilipinos migrating to the mainland were mainly university students, welcomed as trainees in democracy. The first major wave of Pilipino migrants, however, occurred during the 1920's when new legislation (1924) excluded Japanese immigrants (Melendy, 1974). Pilipino workers filled demands for seasonal labor on California farms and orchards and salmon canneries in the Pacific Northwest and Alaska. Pilipino migration dropped sharply during the depression of the 1930's when the availability of white workers increased. During the 1920's and 30's, like other Asian groups, Pilipino Americans encountered racial discrimination and

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[1] This statistic must be viewed in relation to the reasons for immigration during different periods. While immigrants before and immediately after World War II came as laborers, current immigrants are often highly educated professionals.

hostility. Much of this sentiment was fostered by Pilipino men's economic competition and alleged forwardness with white women (Kitano, 1974; Melendy, 1974). By the end of World War II, during which many Pilipino men fought and died alongside Caucasians at Bataan and Corregidor, attitudes towards Pilipinos had become more favorable. Passage of the 1965 Immigration Law eliminated the national origins practice and based immigration instead upon American occupational needs and existence of relatives in the United States. This change produced a dramatic increase in migration from the Philippines. In addition to favorable immigration legislation, two other factors influenced migration: the unstable economic and political situation in the Philippines and the promise of better opportunities in the United States (Kitano, 1974). Reflecting the policy of the 1965 Immigration Law, many new immigrants are professional people schooled in English. Like other highly educated Asian immigrants, however, these Pilipinos are often forced to take low-status and medial jobs.

Cultural factors and learning style. As Melendy (1974) suggests, despite the striking increase in Pilipino migration to the United States mainland since 1965, Pilipino Americans have received very little attention. A few authors have attempted to describe aspects of Pilipino culture regarding childrearing practices and values and their effect on behavior (Guthrie, 1961). Since the Pilipino people come from many tribal and racial origins, reflecting cultural and language diversity, it is difficult to present a general discussion of child-rearing patterns.

Some research has been done on intelligence test performance, motivation, and achievement-oriented behavior of Pilipinos. In an

early study, Livesay (1942) found that Pilipino high school seniors in Hawaii scored lower on a group intelligence measure than their peers in all other subgroups tested--Caucasian, Chinese, Korean, Japanese, Hawaiian, and Portuguese. Sloggett, et al., (1970) presented evidence that for Pilipino high school students in Hawaii, need achievement and intelligence or achievement scores are not significantly correlated. Kubany, Gallimore, and Buell (1970) reviewed studies describing Pilipinos in the Philippines as stressing social approval, interpersonal harmony, and responsibility to the expectations of others. Aldaba-Lim and Javillonar (1968), among others, found need achievement to be a weak motivation for Pilipinos, who tend to achieve to avoid public failure and for the honor of the family rather than for self-satisfaction. Applying these findings to Pilipino American high school students in Hawaii, Kubany et al. found that extrinsic social cues based on need for social approval were more effective than intrinsic factors in eliciting achievement behavior.

Koreans

The 1970 census reports a Korean population in the United States of 70,000. Koreans are currently the second largest Asian group immigrating to the United States, next to the Pilipinos. Since 1970, 56,100 Koreans have immigrated to the United States, making an 80 percent increase over the 1970 population. Korean Americans appear to be more dispersed in America than other Asian groups. In 1970, 44 percent were living in the West, 20 percent in the Northeast, 19 percent in the midwest, and 17 percent in the South. Higher proportions of Korean adults have completed high school and college than the

proportions in the United States as a whole. In 1970, Korean income levels exceeded the national averages. Facility with the English language constitutes a major problem for Koreans, limiting children's school performance and job opportunities commensurate with their education. In 1970, 58 percent of American-born and 91 percent of foreign-born Koreans listed Korean as their first language ("Asian American: Facts and Figures," 1975).

Immigration history. The first Koreans to come to the United States were a small number of students and political refugees, arriving in the West in the early 1880's (Houchins & Houchins, 1974). Large-scale Korean immigration did not begin until 1903 after representatives from Hawaiian sugar plantations came to the port of Inchon seeking agricultural workers (Shin, 1971). Drought in one of the Korean provinces, hope of improving their economic situation, and weakening of the country's political structure under pressure from Japan made immigration appealing. Christian missionaries also encouraged their converts to leave Korea for the United States (Shin, 1971). Many Korean immigrants left Hawaii to work on mines, railroads, and farms on the mainland. Most who immigrated before 1906 were unorganized in terms of traditional social groups. As a result, Christian churches in Korean communities on the mainland formed the core of the organizational structure of the Korean community. Again, like other Asian immigrants, Korean laborers encountered discrimination and often violent acts of anti-oriental hostility. Japan gained control over Korea at the end of the Russo-Japanese War, 1904-1905, when Korea became a protectorate of Japan. Wary of overseas Koreans, one of the first acts of the Japanese-dominated government was to prohibit

immigration. Koreans in America responded by organizing protest activities which continued until the world leaders at the end of World War II divided Korea at the 38th parallel, a solution largely unsatisfactory to Korean immigrants. The marked increase in Korean immigration in the 1960's and 70's came as a result of the liberalization of immigration regulations in 1965 and the Korean political situation. Like the recent Pilipino immigrants, the large number of Korean professionals immigrating to the United States face gross underemployment, aggravated by language difficulties and legal and technical barriers.

Cultural factors and learning style. Perhaps due to the relatively small number of Korean children in the United States, a review of literature on Asian Americans yields almost no empirical information on the learning style of Korean American children and the effect of their cultural background on psychological development. Livesay's (1942) previously mentioned comparison of high school seniors of various ethnic groups in Hawaii ranked Korean students below Anglos and Chinese and above Japanese, Hawaiians, Portuguese, and Pilipinos on a group intelligence test. Lind (1955) described Chinese, Japanese, and Korean immigrants as placing a high value on scholarship in contrast to Portuguese and Puerto Rican immigrants in Hawaii.

Hawaiians

The 1970 census counted nearly 100,000 Hawaiians in the United States, 72,000 residing in Hawaii, 14,000 in California, and 13,000 elsewhere. There are very few pure Hawaiians in the United States. Ninety-seven percent of the Hawaiian group is of mixed ancestry,

reflecting intermarriage with many groups immigrating to the Hawaiian Islands. The Hawaiian birth rate is higher than that of most Asian groups in the United States, averaging 4.5 children per woman. Educational attainment of Hawaiians compares with the national average, although the rates of college enrollment are lower for Hawaiians than the rate for the country as a whole. Analysis by state indicates that Hawaiians in California attain somewhat higher educational levels than those in Hawaii, the difference probably due to various selection factors. The median income for Hawaiian men in Hawaii is below the income for Japanese or Chinese and exceeds that reported for Pilipino men in Hawaii ("Asian American: Facts and Figures," 1975).

Cultural factors. Several authors describe family structure and childrearing practices as important cultural variables in development of Hawaiian children. Fried (1955) observed patterns of great generosity, cooperative and informal aid, noncompetitive attitudes, and lack of emphasis on time.

Based on data collected in a five-year field study on Hawaiians in Hawaii, Gallimore, Boggs, and Jordan (1974) describe the Hawaiian family as an organized and purposeful socialization system that directs its children toward the ultimate goal of family commitment through useful contribution to the family. The outstanding features of the family system are interdependence, shared-functioning, and benevolent authoritarianism on the part of the parents. As a consequence, Hawaiian youth learn to approach their elders with respect; make requests in a subtle, indirect manner; and handle authority relationships through group cooperation and avoidance rather than through negotiation with authority figures.

Learning style. In a series of studies, Gallimore and Sloggett (Gallimore, 1972; Gallimore, et al., 1974; Sloggett, 1969; Sloggett, Gallimore, & Kubany, 1970) investigated the learning characteristics of Hawaiian students in Hawaii. Gallimore, et al. (1974) analyzed the family system's press for achievement, in which achievement becomes defined in terms of interdependence and increasing contributions to the family rather than in terms of personal development and independence. These authors suggest that culture-based attitudes and behaviors such as avoidance of confrontation and preference for shared versus individual work lead to conflict with the expectations of the school. Experimental studies described by Gallimore, et al. (1974) show that Hawaiian children selectively attend to receptive adults, are less likely than Anglo children to make direct verbal requests of adults in non-home settings, and work harder and longer under conditions offering group rather than individual rewards. Sloggett, et al. (1970) presented data indicating that need achievement is not associated with achievement for Hawaiian males. Another study by Gallimore (1972) suggested that need affiliation rather than need achievement may be a more significant motivation for Hawaiians. Sloggett (1969) presented preliminary evidence that behaviors displayed by Hawaiians which are inappropriate to school (e.g., short attention span) can be ameliorated and class productivity increased by systematic use of positive reinforcement, peer pressure, and reduced use of negative control practices.

Samoans

An estimated 48,250 Samoans reside in the United States,

representing the sixth largest Asian subgroup (Lewthwaite, et al., 1973). Of these, approximately 33,000 live in California, 12,000 in Hawaii. Very little written information is available on Samoans. We were not able to locate studies of childrearing and learning characteristics of Samoan people.

Summary

This review of literature on Asian Americans points to two important considerations in undertaking research with this population. Both considerations partake of current thinking on cross-cultural research. First, there is the need to understand differences as well as similarities among the Asian American ethnic groups. Second, there is the need to obtain more information on the learning styles and their socialization antecedents in this population prior to the children's entry into formal schooling to separate family and cultural background influences from that of schooling. Each of these points will be discussed below.

Unlike most research which has focused on differences between ethnic groups (Hess, 1970), research on Asian Americans has tended to characterize them as a homogeneous entity. Several writers (Chun-Hoon, 1973; Kitano, 1974; Yee, 1973) have emphasized that Asian Americans represent different ethnic groups and cultures.[2] Another, even less

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[2] These writers argue that through the process of racism, there is a distortion of reality by the placement of different groups into a single category ("model minority") or into stereotypes. As a consequence, problems such as those represented by the elderly and poor in ethnic "ghettoes," the chronically underemployed, and the school dropouts among Asian American groups are often hidden and ignored. A major similarity among the different groups is in encounters with racial oppression through economic exploitation, exclusionary legislation, and hostility (Chun-Hoon, 1973). Sue (1973) suggests that these forces of racism have served to define and shape the Asian American's identity.

noted consideration, is regional, tribal, and associated subcultural and language differences within the ethnic group itself. Therefore, intra-group as well as inter-group variation must be attended to in cross-cultural research.

This review indicated that there is a movement away from earlier research based on cultural deficits (defined in terms of the dominant culture) to one based on cultural differences and their influences on behavior.[3] The findings reported in earlier studies of the 20's and 30's, which were conducted in a climate of anti-oriental sentiment, often employed measures which placed Asian children at a disadvantage in terms of their language and cultural background. More recent studies, for example on Hawaiians, attempt to relate cultural features--values, family structure, and childrearing practices--to children's academic performance and attitudes toward schooling (Gallimore, et al., 1974).

The movement to the theory of cultural differences (Cole & Bruner, 1972; Labov, 1970) represents a rejection of the assumptions upon which much of psychometric study and psychological experimentation is based. Cole and Bruner (1972) note: "(a) Formal experimental equivalence of operations does not insure de facto equivalence of experimental treatments. (b) Different subcultural groups are predisposed to interpret the experimental stimuli (situations) differently.

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[3]Several early studies comparing Japanese, Chinese, and White children's intellectual abilities claimed to show that the latter "excel" Asian and other races in general intelligence (Murdoch, 1925). The authors warned that "the presence of so many clever, industrious and frugal aliens constitutes a political and economic problem of the greatest importance" (Sandiford & Kerr, 1926, p. 367).

(c) Different subcultural groups are motivated by different concerns relevant to the experimental task." (p. 165). Hence they call for "an extended idea of competence" (p. 168) which states that different groups have the same underlying competence. Differences in observed competence or performance can be accounted for by the situations and contexts in which each group finds it appropriate to express its competence. Hence, the analysis and interpretation of performance must take into account the "ecological significance" of stimulation in research on ethnic groups specifically and on individuals in general (Mischel, 1973).

These considerations are critical in interpreting existing studies and our preliminary findings. We will return to this discussion in Section IV.

In summary, the Project had two main foci of interest. First, we investigated patterns of similarities and differences among the Asian American groups on a number of standardized and Project-developed psychological tests to determine children's competence before they entered public school. Second, we attempted to collect data on cultural and family background factors which might be related to observed patterns of competence within the ethnic groups. As the literature review indicated, there is a paucity of empirical data on Asian American children in relation to our foci. Specific hypothesis testing is difficult if there is little information on the population under study. Therefore, the research designed and described in this report was aimed at creating a data base which could serve to generate hypotheses and future research projects about Asian American children and their families.

In the next section, we will describe the methods which we used to collect our data.

SECTION II

METHODS

Section II of this report presents the methodological problems faced and the decisions made by the staff. This section also provides a description of the study plan and a summary of the data collection procedures. Since a variety of procedures were used as well as a large number of child tests, each procedure will be described in detail in Section III along with the preliminary findings.

The Conduct of Community Research

Research in ethnic communities presents unique challenges to social science researchers. Community groups and individuals have become increasingly sophisticated in questioning the relevance of proposed research and the values and assumptions of the researcher. Within the past decade of community action programs, research without community support has been difficult, if not impossible, to conduct.

Development of community support and input. The first nine months of the Project were devoted to two major activities: planning and development of community support and input. During the fall of 1973 the co-authors began a collaborative effort to undertake the project described in this report. After a series of discussions and research seminars, a proposal was submitted for funding outlining the tentative plans for the Project.[1]

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[1] This proposal was submitted and funded by the UCLA Institute of American Cultures and the Ford Foundation. Janice Yee was also a member of this planning group.

The Project goals at that time were to investigate the learning and family characteristics of Asian American children as well as their educational potential and problems. In addition to these initial goals, a specific in-depth study of mother-child relationships was developed and separate funding was secured for that purpose.[2]

Concurrent with the planning phase of the Project, negotiations for approval of research were secured from the Los Angeles Unified School District. Furthermore, a council of community advisors was established. It consisted of representatives of each of the ethnic populations which would be included in the study: Chinese, Japanese, Korean, Pilipino, Samoan, and Hawaiian. This council of community advisors reviewed plans and data collection materials developed by the Project researchers and made suggestions regarding possible areas of high sensivitity for each ethnic group.

These advisors were critical in many respects. First, they provided knowledge of their communities to the Project staff. They reviewed and suggested modifications of potentially sensitive materials. They made suggestions for areas of inquiry important to their specific communities of which the Project researchers were not aware. They provided valuable community contacts and suggested members of each community whose approval of the present study would be required. For instance, in the case of the Samoan community, individual family participation could be solicited only after both community chiefs and religious leaders had been contacted. In general, then, the advisory council members and other community leaders provided the Project with

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[2] These funds were awarded through funds available to the School of Education, UCLA, by the Spencer Foundation to R. Takanishi.

a careful evaluation of the research plans and direct input into the restructuring and constant modification of the research methods.

The relationship between the Project, the schools, and ethnic communities remained a critical focus of the Project through its entire duration.

Sampling

Sampling was limited to children and their families of Chinese, Japanese, Korean, Pilipino, and Hawaiian ancestry living in the greater Los Angeles metropolitan area. Samoan American children were also sampled, but due to unforeseen difficulties only limited data were collected on Samoan Americans and hence are not reported here.

The first major difficulty we faced in designing this study on Asian Americans was the problem of sampling. Defining Asian Americans, specifically, Chinese, Japanese, Korean, Pilipino, Samoan, and Hawaiian Americans, presents numerous difficulties. Demographic data provided by the 1974 Asian American census survey and other ethnic survey data indicated there is great variability within the ethnic populations under study. Sources of this variation include socioeconomic status, English language proficiency, citizenship status, immigration history, and educational background in the home country and in the United States. Hence, given the resources of the Project, it would have been extremely difficult to obtain the ideal of a random sample of the populations.

A related problem concerned the development of a working definition for each ethnic group. This problem was especially relevant to the Pilipino and Hawaiian groups. Pilipino families are often confused with other Spanish surname populations because of similarity in

last names. Principals, teachers, and community personnel assisted us immensely in our efforts to identify Pilipino families. Identification by surname also constituted a similar, but less significant, problem among Chinese, Korean, and Hawaiian families who have similar surnames or Western family surnames (e.g., Lee).

Sampling the Hawaiian group presented the most difficult example of developing a definition of an ethnic group. Over 90 percent of the Hawaiian population is part-Hawaiian, since interracial marriage is common among this population. Children and families were included in the Ha[illegible]ian ethnic group if they identified themselves as ethnically and cul[illegible]rally associated with it.

[illegible]nce the definitional problems were surmounted, we faced the problem of selecting geographic areas in which to concentrate our resources. Several difficulties were encountered. First, while the Los Angeles metropolitan area encompassed the area under study, the different ethnic groups were located in different areas of the city. While most lived in specific ethnic areas, a small percentage of families in each group were scattered throughout the city.[3] Second, Asian Americans as a group make up less than four percent of the total population of the metropolitan area. This means that even in areas with high concentrations of any ethnic group, relatively small numbers of individuals constitute a sample pool. Therefore, the Project sample was limited to children and families living in particular communities in the metropolitan area where the concentration of Asian

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[3] Children of these families are known as ethnic isolates, since demographic data indicated that they are one of less than six Asian American children in the school.

American families was relatively high. A target elementary school was chosen as the central focus point in each area. Eight areas were thus identified. The concentration of the ethnic groups in these eight target schools is presented in Table 1. The areas were also selected because they represented a mix of socioeconomic status levels as well as different sections of the metropolitan area.

Hence, the Project sample cannot be considered a random or representative sample of Asian American children in Los Angeles, and even less so, in the United States. However, as the description of the sample below will indicate, the sample does not represent a major discrepancy from census-derived characteristics of Asian American groups in Los Angeles (Asian American Census Survey, 1974).

In the next section, the sample selection procedures will be described. This will be followed by a description of the Project sample.

Sample Selection Procedures

During spring, 1974, principals of schools in the eight target areas were contacted following approval of the Project by the Los Angeles Unified School District. All principals contacted agreed to permit Project staff to distribute notices requesting information about and participation of pre-kindergarten children in the study. (The multi-lingual notices are in Appendix A.) Notices were then returned to school and compiled by the Project staff.

Table 1

ETHNIC GROUP CONCENTRATIONS IN TARGET SCHOOL AREAS

Target School Areas	Ethnic Group Concentrations						Total Asian Population	Total School Population
	Japanese	Chinese	Korean	Pilipino	Samoan	Hawaiian		
1	0.0 (0)	75.06 (599)	.12 (1)	.12 (1)	0.0 (0)	0.0 (0)	76.82[a] (613)	100.00[b] (798)
2	38.94 (220)	16.64 (94)	1.24 (7)	.35 (2)	0.0 (0)	0.0 (0)	57.17 (323)	100.00 (565)
3	34.84 (400)	1.31 (15)	.43 (5)	.87 (10)	0.0 (0)	2.09 (24)	39.81 (457)	100.00 (1148)
4	1.19 (12)	.30 (3)	0.0 (0)	.50 (5)	12.70 (128)	.50 (5)	15.48 (156)	100.00 (1008)
5	.19 (2)	0.0 (0)	0.0 (0)	19.89 (210)	2.93 (31)	.47 (5)	24.24 (256)	100.00 (1056)
6	11.53 (152)	2.73 (36)	9.78 (129)	4.70 (62)	.53 (7)	2.28 (30)	31.79 (419)	100.00 (1318)
7	1.61 (17)	2.37 (25)	0.0 (0)	16.89 (178)	0.0 (0)	.85 (9)	22.67 (239)	100.00 (1054)
8	25.54 (153)	2.17 (13)	.50 (3)	1.17 (7)	0.0 (0)	.33 (2)	31.55 (189)	100.00 (599)

Note: top number = percentage
bottom number = number of cases

[a]Asian population information taken from a survey conducted by L. A. City Schools for the Asian American Education Commission.

[b]Total school population information from Los Angeles Unified School District Racial and Ethnic Survey, Fall 1972.

RT:TG

At the beginning of summer, 1974, the Project field workers were provided with lists of community organizations (churches, ethnic societies, agencies serving the community) and of names and addresses of families who had responded to our school notices.[4] For each ethnic group, representative field workers were instructed to develop a sample of approximately twenty 4- and 5-year-old children ready to attend kindergarten in the fall of 1975. Attempts were made to vary the sample of children selected by sex and by fathers' occupation. The field workers were requested to select children who resided in the intake areas of target schools and who came from intact, two-parent families. The field worker then called or visited organizations and families on their lists. Social networks based on the field worker's community contacts and those of the participating families were also used.

The Sample

At the beginning of the data collection phase of the project, there were 19 Chinese, 22 Japanese, 19 Korean, 16 Pilipino, and 17 Hawaiian American families who agreed to participate in the study. No payment was promised the families. However, the field worker offered to discuss child and family problems and the possibility of referral services should the need arise.

The extremely low dropout rate in the sample attests to the high quality of the field workers. Children and their mothers were

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[4] Selection and training of field workers will be discussed in the third part of this section. A bi-lingual field worker was employed for each of the ethnic groups.

subjected to a variety of time-consuming and intrusive methods such as three- to four-hour interviews and observations in the home, as well as extensive child testing. Despite these factors, however, there were only two dropouts during the course of the study. One Chinese family moved to San Francisco for an extended stay. A Korean child was involved in an accident which required hospitalization mid-way during the study.

Description of the Sample

The following description of the Project sample is divided into three areas with related tables: general demographic information (Tables 2-4), family structure (Table 5), and language behavior of the child (Table 6). The information in this section is based on the first Home Interview which was the researcher's first contact with many of the families. (Home Interview I can be found in Appendix B.)

General demographic information. Table 2 presents general demographic information on the sample children. There was a slightly greater proportion of female versus male children (56 percent versus 44 percent). However, this was the case mainly for the Pilipino and Hawaiian samples. The age of the children for all the ethnic groups was close to the average of 55.15 months. Fifty-eight percent of the children were born in the United States.

Preschool experience of the children varied by ethnic group. In the sample as a whole, 43.96 percent were enrolled in regular pre-

Table 2

DEMOGRAPHIC INFORMATION ON SAMPLE CHILDREN

Ethnic Group	Sex		Age (months)	Birthplace		Preschool Experience			Length of Experience (months) Regular			Headstart		
	Male	Female		U.S.	non-U.S.	Regular Preschool	Head-start	None	X	SD	N	X	SD	N
Chinese	50.0 (9)	50.0 (9)	55.11 (18)	66.7 (12)	33.3 (6)	27.78 (5)	38.89 (7)	33.33 (6)	13.8	9.86	5	8.57	2.3	7
Japanese	47.6 (10)	52.4 (11)	55.62 (21)	76.2 (16)	23.8 (5)	80.95 (17)	0.0 (0)	19.04 (4)	16.82	7.2	17	0	0	0
Korean	50.0 (9)	50.0 (9)	54.89 (18)	11.1 (2)	88.9 (16)	44.44 (8)	0.0 (0)	55.55 (10)	15.13	9.67	8	0	0	0
Pilipino	35.3 (6)	64.7 (11)	55.06 (17)	50.0 (8)	50.0 (8)	17.65 (3)	11.76 (2)	70.59 (12)	7.67	4.04	3	4.0	1.41	2
Hawaiian	35.3 (6)	64.7 (11)	55.08 (17)	92.3 (12)	7.7[a] (1)	41.18 (7)	11.76 (2)	47.06 (8)	16.14	5.67	7	4.5	2.12	2
Total	44.0 (40)	56.0 (51)	55.15 (91)	58.2 (50)	41.8 (36)	43.96 (40)	12.09 (11)	45.05 (41)	15.30	7.73	40	7.0	2.93	11

Note: top number = percentage
bottom number = number of cases

[a]missing/incomplete data

RT:TG

schools, 12.09 percent in Head Start, and 45.05 percent had no preschool experience. The pattern of preschool experience, i.e. the distribution in the three categories, varied by ethnic group. Eighty percent of the Japanese children were enrolled in regular preschool. None of the Japanese and Korean children had Head Start experience. The Chinese sample had the highest proportion of children who had Head Start experience with an average attendance time of 8.57 months. For the Pilipino and Hawaiian children who attended Head Start, the average attendance period was 4.0 and 4.5 months respectively. In general, the Japanese children were most likely to attend preschool and had the longest attendance period ($\bar{X}$ = 16.82 months).

Table 3 presents parental occupation by each of the ethnic groups. Father's occupation was fairly well distributed over the categories: 22.74 percent professional or independent; 15.74 percent white collar; 52.28 percent skilled or semi-skilled; and 6.34 percent unskilled. For the mothers who were employed, the following distribution was obtained: 1.66 percent professional or independent; 4.52 white collar; 26.16 skilled or semi-skilled, and 8.52 percent unskilled with 14.38 percent working in the home, typically piecemeal sewing.

Table 4 presents parental education outside and within the United States. For both mothers and fathers, a higher level of educational attainment is achieved in the mother country. Immigrants such as those among Koreans and Pilipinos are likely, especially in the last decade, to represent educated and professional individuals.

Table 3

PARENTAL OCCUPATION[a]

Ethnic Group	Mother PI	W	S	US	WH	Father PI	W	S	US	WH
Chinese	0.0 (0)	5.9 (1)	17.7 (3)	5.9 (1)	41.2 (7)	5.6 (1)	5.6 (1)	77.8 (14)	11.1 (2)	0.0 (0)
Japanese	0.0 (0)	0.0 (0)	9.6 (2)	4.8 (1)	19.0 (4)	20.0 (4)	30.0 (6)	50.0 (10)	0.0 (0)	0.0 (0)
Korean	0.0 (0)	0.0 (0)	38.9 (7)	16.7 (3)	5.5 (1)	55.5 (10)	22.2 (4)	11.1 (2)	5.6 (1)	0.0 (0)
Pilipino	0.0 (0)	0.0 (0)	56.3 (9)	0.0 (0)	6.2 (1)	23.5 (4)	11.8 (2)	58.8 (10)	5.9 (1)	0.0 (0)
Hawaiian	8.3 (1)	16.7 (2)	8.3 (1)	16.7 (2)	0.0 (0)	9.1 (1)	9.1 (1)	63.7 (7)	9.1 (1)	0.0 (0)
Total Sample	1.66 (1)	4.52 (3)	26.16 (22)	8.52 (7)	14.38 (13)	22.74 (20)	15.74 (14)	52.28 (43)	6.34 (5)	0.0 (0)

Note: top number = percentage
bottom number = number of cases

[a]PI Professional/independent
W White collar
S Semi-skilled/skilled
US unskilled
WH works in home

RT:TG

Table 4

PARENTAL EDUCATION IN THE U.S. AND COUNTRY OF ORIGIN[a]

Ethnic Group	MOTHER															FATHER													
	U.S.							Non-U.S.								U.S.							Non-U.S.							
	G/C	SC	T	HS	SH	6	N	G/C	SC	T	HS	SH	J	6	N	G/C	SC	T	HS	SH	6	N	G/C	SC	T	HS	SH	J	6	N
Chinese	0.0 (0)	5.6 (1)	0.0 (0)	0.0 (0)	5.6 (1)	11.1 (2)	50.0 (9)	0.0 (0)	5.6 (1)	5.6 (1)	11.1 (2)	22.2 (4)	5.6 (1)	44.4 (8)	5.6 (1)	0.0 (0)	16.7 (3)	5.6 (1)	5.6 (1)	5.6 (1)	11.1 (2)	27.8 (5)	0.0 (0)	5.6 (1)	0.0 (0)	38.9 (7)	0.0 (0)	16.7 (3)	27.8 (5)	5.6 (1)
Japanese	0.0 (0)	9.5 (2)	28.6 (6)	14.3 (3)	0.0 (0)	4.8 (1)	23.8 (5)	0.0 (0)	0.0 (0)	19.0 (4)	28.6 (6)	0.0 (0)	0.0 (0)	0.0 (0)	52.4 (11)	28.6 (6)	0.0 (0)	19.0 (4)	9.5 (2)	0.0 (0)	0.0 (0)	28.6 (6)	14.3 (3)	0.0 (0)	0.0 (0)	23.8 (5)	4.8 (1)	4.8 (1)	0.0 (0)	52.4 (11)
Korean	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	100.0 (18)	27.8 (5)	33.3 (6)	5.6 (1)	33.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	16.7 (3)	5.6 (1)	22.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	55.6 (10)	22.2 (4)	72.2 (13)	5.6 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Filipino	0.0 (0)	11.8 (2)	11.8 (2)	0.0 (0)	0.0 (0)	0.0 (0)	64.7 (11)	47.1 (8)	5.9 (1)	17.6 (3)	17.6 (3)	0.0 (0)	5.9 (1)	0.0 (0)	5.9 (1)	5.9 (1)	0.0 (0)	5.9 (1)	0.0 (0)	0.0 (0)	0.0 (0)	76.5 (13)	29.4 (5)	5.9 (1)	29.4 (5)	29.4 (5)	0.0 (0)	0.0 (0)	5.9 (1)	0.0 (0)
Hawaiian	5.9 (1)	11.8 (2)	0.0 (0)	23.5 (4)	23.5 (4)	5.9 (1)	0.0 (0)	N.A.								5.9 (1)	11.8 (2)	5.9 (1)	29.4 (5)	5.9 (1)	11.8 (2)	0.0 (0)	N.A.							
Total Sample	1.4 (1)	8.1 (6)	10.8 (8)	9.5 (7)	6.8 (5)	5.4 (4)	58.1 (43)	18.1 (13)	11.1 (8)	12.5 (9)	23.6 (17)	5.6 (4)	2.8 (2)	8.3 (6)	18.1 (13)	14.7 (11)	7.9 (6)	14.7 (11)	10.5 (8)	2.6 (2)	5.3 (4)	44.7 (34)	16.7 (12)	20.8 (15)	8.3 (6)	23.6 (17)	1.4 (1)	5.6 (4)	5.3 (6)	15.3 (11)

Note: Top number = percentage of cases
Bottom number = number of cases

[a] G/C = Graduate/completed college
SC = Some college
T = Technical
HS = High School
SH = Some High School
J = Junior
6 = Less than 6 years
N = None (no schooling)

Family structure. The meaning the child attaches to the family and his experience of it can be expressed by a number of organizational variables including the availability of the natural parents expressed in terms of the days and hours which each parent works. Table 5 presents the family structure of children in the sample by ethnic group.

In describing family structure, it is important to note that variation within ethnic group is greater than between ethnic groups. Most of the families in the sample follow the nuclear pattern. However, the Korean, Chinese, and Hawaiian groups are more likely to have non-parental adults living in the household. The Japanese and Korean groups tend to have slightly less children, but on the average the families are small (2.01 children per family). The fathers work on the average close to six days per week for long hours. Of the mothers who work, most appear to be employed in full-time positions. However, the percentage of working mothers varies by ethnic group: Chinese, 77.78 percent, Japanese, 35.C percent; Korean, 55.5 percent; Pilipino, 64.7 percent; and Hawaiian, 23.41 percent.

Language behavior of the child. The child's language behavior changes in response to the recipient of his communication. Table 6 presents the language behavior of the child in terms of language spoken to the child by the mother and the language spoken by the child to his mother, father, siblings, relatives, and friends.

Table 5

FAMILY STRUCTURE

Ethnic Group	Number of adults (other than parents) $\bar{X}$	SD	Total number of children $\bar{X}$	SD	Number of siblings $\bar{X}$	SD	Total number in household $\bar{X}$	SD	Mother Employment: Total days/weeks $\bar{X}$	SD	Mother Employment: Total hours/day $\bar{X}$	SD	Mother Employment: Total Working Mothers N	Mother Employment: Total Working Mothers Percentages	Father Employment: Total days/weeks $\bar{X}$	SD	Father Employment: Total hours/day $\bar{X}$	SD
Chinese	.17	.38	2.39	2.2	2.33	2.20	5.39	2.36	5.21	.80	5.14	2.83	14	77.78	6.06	.87	9.47	.94
Japanese	.05	.22	1.48	1.44	1.48	1.44	4.52	1.50	5.57	2.15	6.29	2.93	7	35.0	5.38	.50	8.62	1.07
Korean	.22	.43	1.56	.92	1.56	.92	4.78	.88	5.70	1.25	7.68	1.51	10	55.5	5.31	1.08	8.56	.89
Pilipino	.059	.243	2.4	1.66	2.4	1.66	5.47	1.59	5.42	1.31	8.18	1.33	11	64.7	5.86	.95	10.29	5.8
Hawaiian	.23	.60	2.23	1.96	1.92	1.66	5.23	2.05	6.33	2.16	5.25	3.86	4	23.41	4.64	.94	7.55	1.37
Total Sample	.15	.37	2.01	1.63	1.94	1.58	5.08	1.68	3.25	2.94	6.59	2.64	46	45.05	5.50	.94	8.94	2.68

RT:TG

Table 6

LANGUAGE BEHAVIOR OF CHILD

Ethnic Group	Language Spoken to Child by Mother			Language Spoken by Child to Mother		Language Spoken by Child to Father			Language Spoken to Sibs			Language Spoken to Relatives			Language Spoken to Friends		
	English	Own	Mix	Own	English	Own	English	Mix	Own	English	Mix	Own	English	Mix	Own	English	Mix
Chinese	0.0 (0)	100.0 (18)	0.0 (0)	100.0 (18)	0.0 (0)	94.4 (17)	0.0 (0)	5.6 (1)	75.0 (12)	25.0 (4)	0.0 (0)	100.0 (18)	0.0 (0)	0.0 (0)	66.7 (12)	16.7 (3)	16.7 (3)
Japanese	9.5 (2)	28.6 (6)	61.9 (13)	57.1 (12)	33.5 (7)	14.3 (3)	61.9 (13)	19.0 (4)	0.0 (0)	69.0 (11)	31.0 (5)	22.2 (4)	61.1 (11)	16.6 (3)	0.0 (0)	80.0 (16)	20.0 (4)
Korean	0.0 (0)	66.7 (12)	33.3 (6)	72.2 (13)	27.8 (5)	72.2 (13)	11.1 (2)	11.1 (2)	40. (6)	40. (6)	20. (3)	91.6 (11)	0.0 (0)	8.4 (1)	29.4 (5)	58.2 (10)	11.2 (2)
Filipino	11.8 (2)	11.8 (2)	76.5 (13)	58.8 (10)	41.2 (7)	29.4 (5)	70.6 (12)	0.0 (0)	31.0 (5)	69.0 (11)	0.0 (0)	35.3 (6)	64.7 (11)	0.0 (0)	23.5 (4)	76.5 (13)	0.0 (0)
Hawaiian[a]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL SAMPLE	5.41 (4)	51.35 (38)	43.24 (32)	73.61 (53)	26.39 (19)	52.78 (38)	37.5 (27)	9.72 (7)	33.78 (25)	52.7 (39)	13.51 (10)	60.0 (39)	33.85 (22)	6.15 (4)	29.17 (21)	58.3 (42)	12.5 (9)

Note: top number = percentage of cases bottom number = number of cases

[a] Data incomplete and will be reported in future reports.

RTG:TG

The patterns of language use differ within each ethnic group. The Chinese children in this sample tend to speak mainly Chinese to both family members (including non-nuclear relatives) and friends. Within the nuclear family, the Japanese children tend to use a mixture of Japanese and English or English. The Korean children speak mainly Korean to their parents and relatives but appear to rely more on English when communicating with siblings and friends.

The Pilipino children constitute a special case. Since the Philippines was an American territory until the end of the Second World War, and since English is taught in the public schools there, it can be expected that English usage would be more common within this group in comparison to the others described. The Pilipino mother in the sample tended to use a mixture of a dialect and English or a dialect in communicating with the child. The child tended to respond almost equally in English and in the dialect to the mother. However, in the main, the Pilipino child used English in his contacts with his father, siblings, relatives, and friends.

As a caution, this description of language behavior is based only on the Project sample. A more representative sample is needed before any statement can be made about Asian children and their language behavior. In general, except perhaps for the Chinese sample, these children appear to be able to communicate in two languages depending on the recipient of their communication. It is not possible

from these data to determine how proficient they are in the use of either language. The data from the language tests will be useful in this regard. Finally, this description of language was made in the summer before the child entered public school. The influence of schooling on his language behavior remains to be determined.

In summary, this description indicates the status and characteristics of the children in summer, 1974, prior to their entry into public school. The average age of the children was 55.15 months; 58 percent were born in the United States. Except for the Chinese sample, the children use both English and their native language depending upon the recipient of their communication.

The Project children come from a diversity of family backgrounds in terms of parental education and occupation. Almost all live in small, nuclear families. The fathers work close to six days a week for long hours. Of the mothers who work, must hold full-time positions. On the average, 55.55 percent of the mothers are employed. This sample description provides the background for interpreting our preliminary findings in Section III.

Selection and Training of Field Workers

Six women, each representing one of the six Asian groups under study, were selected and trained as Project field workers. These field workers collected all of the data from their respective groups.

Selection. Prior to actual selection of the field workers, for major responsibilities were specified:

1. to locate the sample by making community contacts and

initiating interaction with interested parents;

2. to maintain the participation of the families for the Project's duration by establishing rapport and serving as a resource person and friend;

3. to conduct reliably the interviews, mother-child observations, and child tests following intensive training;

4. to secure children's best possible performance on tests by establishing a warm relationship prior to testing.

The first two of these responsibilities made knowledge of the ethnic community, interest in the people, dependability, and initiative valuable assets for the Project field workers. The anticipation that many participating families would speak primarily an Asian language required that each field worker have fluent command of both English and the language native to her respective community. Due to the possibility that interview, observation, and test responses would vary with the sex of the field worker, and because the children's mothers were to be the major informants, only women were employed as field workers. Perceived similarity--the common ethnicity and sex of the interviewer and familiarity with mutual problems--would help secure mothers' confidence. Previous research experience was not required, since qualities of community awareness, interest, and similarity to sample could be found, perhaps exclusively, in lay members of the community.

Recent research on testing of minority children suggests that examiner race as well as knowledge of the child's language and culture may affect important aspects of test performance. Sattler (1973) notes that, while there is no consistent empirical evidence that differences

in examiner-examinee race affect test scores, there is reason to believe that such differences may arouse suspicion and fear in the child in the test situation. Studies of improvement of performance of bilingual children (usually Mexican American) on IQ tests administered in their home language present conflicting results (cf. Chandler & Plakos, 1969 and Eklund & Scott, 1965). Sattler (1973) reviews evidence that school-age bilingual children perform better on English versions since development of their native language ceases upon school entrance. Thus, it appears that optimal child performance requires that the examiner administer the test in whatever language or combination of languages the child is most proficient. Finally, Cole and Bruner (1971) indicate that the competence of children of different cultures may find expression in different situations and contexts. Therefore, examiners familiar with the cultures under study may provide valuable input regarding appropriateness of test materials and may establish more suitable testing conditions. Cross-cultural research suggests that an examiner of the child's race who speaks the child's language(s) and understands his culture may facilitate the child's test performance.

In sum, the tasks required of Project field workers and literature relevant to testing children of different cultures prescribed the qualifications for selection of the field workers:

1) ethnic origin matching respective sample;

2) responsibility and initiative;

3) knowledge of community;

4) ability to work well with adults and children;

5) spoken fluency in English and appropriate Asian language.

The most qualified of 70 applicants were interviewed; six were hired as Project field workers. These fulfilled all specifications and either lived or worked in the community of interest. The field workers' ages ranged from 24 to 51. Five had completed four years or more of college study.

Training. Project field workers received training at UCLA over nine non-consecutive weeks. Training occurred in three parts covering interview techniques, mother-child observations, and child testing. On the average, each part consisted of four 8-hour training sessions distributed over two weeks. Between training sessions, the field workers carried out the activities for which they had just been trained.

Training I: Overview of Project and interview techniques. In the first part of training, field workers attended orientation meetings presenting Project history and overall plans and goals. The confidential nature of subject data was discussed, and each participant signed a statement of confidentiality (Appendix C). Each field worker received a list of names of potential subjects, reported by parents or neighbors as children who would begin kindergarten at the target schools in fall, 1974. Small group discussions generated detailed procedures for making community contacts to acquaint the community with the Project and to recruit subjects. Field workers engaged in directed role-playing in preparation for initial telephone contacts with community agents and parents. Information covered on initial phone contacts appears in Appendix D. Field workers then began visiting community organizations (e.g., church groups, cultural societies,

ethnic newspaper firms) and calling parents of children listed as potential subjects. A portion of each subsequent training session consisted of reports on community and parent contacts and group and individual discussions of progress and problems on securing the samples. During the remaining portion of Training I sessions, field workers learned general interview techniques and role-played Home Interview I for a variety of family situations. As samples were finalized, field workers began conducting Home Interview I, again reporting back their progress and problems encountered.

Training II: Mother-child observations. As first home interviews were being completed, training commenced on mother-child observations. Field workers were presented background information regarding the rationale and general procedures for such observations. Field workers were required to memorize the codes for categories describing maternal and child verbalizations and behaviors and were tested on their learning. Practice sessions were designed to simulate actual conditions; researchers coded behaviors and verbalizations in 10-second blocks signaled by a beeper tape. Each field worker conducted a practice observation using a neighbor child not involved in the Project. A more detailed description of Training II is presented in the mother-child observation section of this report (Section III).

During the latter part of Training II, interview techniques were reviewed with regard to conducting Home Interview II. Field workers simultaneously began mother-child observations and Home Interview II taking time from the review to discuss progress and difficulties encountered.

Training III: Child testing. Training for child testing began

as field workers finished the final mother-child observations and second home interviews. For each test, the rationale was presented and directions for administration were described in detail. Each test was demonstrated in a role-playing situation, after which field workers administered the test to each other. After all instruments had been presented in this manner, field workers watched and commented as the entire battery was administered in a role-playing situation in the actual order to be presented. Events anticipated as possible sources of confusion or difficulty, such as picking up and returning the child to his home, starting and stopping the tape recorder, arranging tables and chairs, and handling reluctant and overenthusiastic subjects, were simulated and discussed in detail. Each field worker was asked to study the measures. After one week of study field workers were asked to present the full battery of tests in a role-playing situation with one of the Project directors. A tester's manual (Appendix E) containing directions regarding preparation for testing, administration, and parental questions was compiled for ready reference.

General Data Collection Procedures

Data collection included interviews, structured observations, and child testing. These methods were employed in four phases of data collection: 1) Home Interview I (Demographic Information), 2) Structured Mother-Child Observations, 3) Home Interview II (Socialization patterns and maternal attitudes interview), and 4) Child Testing and Observation.

Home Interview I. Demographic information on the children and families was collected in the first phase of data collection. After

initial telephone contact with sample families, field workers arranged for personal visits. The field worker explained the general goals of the Project and explained the specific activities in which the families' cooperation was being sought. Only after written, informed consent was given by one parent in the family did data collection begin. Copies of the statement of consent were presented in both English and the appropriate Asian language. Examples of these statements may be found in Appendix F.

Home Interview I was designed as a structured interview to inquire about the demographic and background information of the target child and his family. Age, birthplace, parental educational background, immigration history, family structure, employment background, and language information comprised the areas tapped by the interviews. A copy of Home Interview I may be found in Appendix B.

Much of the data collected in Home Interview I is reported in the sample description presented earlier in this section. More information on Home Interview I can be found in Section III, Part VII, of this report.

Structured Mother-Child Observations. One of the major objectives of the Project was to investigate the relationship between the principal caregiver and the sample child. In most cases the principal caregiver was the mother. A detailed description of the methods employed and the observation of the mother-child relationship in a teaching situation can be found in Section III, Part VII, of this report.

Home Interview II. Home Interview II was designed to provide information on the socialization practices found in the sample homes. Specifically, Home Interview II collected information on the target

child's caregivers, preparation for schooling, maternal expectations and aspirations for her child, maternal attitudes toward education and schooling, her involvement in community and ethnic activities, and socialization goals.

Although the data from Home Interview II has not yet been analyzed, this report describes the area of future inquiry of Home Interview II in Section III, Part VII.

Child Testing. The Project selected a test battery consisting of 12 measures to evaluate children's performance in five areas: visual motor development and cognitive styles, visual discrimination, language, quantitative concepts, and memory. Children's test-taking behaviors were also recorded at intervals on an Inventory of Test-Taking Behaviors developed by the Project. Appendix E contains the tester's manual (prepared as a reference for use during test sessions) with abridged instructions and procedures organized in their order of presentation to the child. A detailed description of each test and the results of its administration can be found in Section III, Parts I through VI, of this report. A summary of the tests administered to the children is presented below.

The Early Childhood Embedded Figures Test (EC-EFT), modified versions of the Matching Familiar Figures Test (MFFT), and the Bender-Gestalt were used to assess performance in the visual-motor domain. The Bender was employed as an index of visual-motor development, while the EC-EFT and MFFT were used to evaluate cognitive styles and cognitive tempo respectively.

Visual discrimination was measured by two tests developed by the Educational Testing Service as part of a battery of tests for

preschool children entitled CIRCUS (ETS, 1974). The LOOK-ALIKE test was designed as a measure of visual discrimination of shapes and forms. The second visual discrimination test called FINDING LETTERS AND NUMBERS was designed as a measure of letter and number recognition.

Three areas of language were measured--receptive, productive, and expressive language. Receptive language was measured by a CIRCUS test entitled, LISTEN TO THE STORY. Productive language was evaluated by two measures. The first measure was the standard form of a CIRCUS test entitled SAY AND TELL, and the second was a modification of the standard CIRCUS instrument. Expressive language was assessed by the Test of Expressive Language (TEL) developed by Crowell, Fargo, & Noyes, 1969).

Quantitative concepts were tapped by a CIRCUS measure entitled, HOW MUCH AND HOW MANY. This measure is said to be able to identify "embryonic" forms of quantitative concepts developing in the preschool age child (Jungeblut, 1973).

The Project developed a serial recognition memory task in order to test memory using abstract and familiar sets of stimuli.

One other test called The Standard English Repetition Test (SERT) was given to the children as part of the battery of child testing. This test was developed by Richard Day and Ronald Gallimore and associates (1974) as a means of measuring standard English performance. Analysis of SERT data will be performed by Richard Day and Ronald Gallimore and will be presented in a separate report.

Finally, the Project developed an Inventory of Test-Taking Behaviors to provide information on children's responses to the test situation, test materials, and the examiner. Individual inventories

were completed after a child finished three of the four testing sessions.

Procedures for child testing. The test battery was administered to subjects in four half-hour sessions, two sessions per day. Field workers transported subjects from their homes to test centers located in the immediate neighborhood (school or community center). On each day of testing, three or four children were brought to the preassigned center. While one was being tested, the others engaged in play supervised by an aide hired for this purpose by the Project. After all children at the center had completed one test session, the field worker began the second session of testing for each child. Thus, test sessions were separated by one to one and one-half hours of play during which refreshments were served. Subjects returned to the center a second day for the third and fourth sessions. Testing at a center was not possible in every case, as when a child refused to be separated from the mother or when subjects were not centrally located. Under these circumstances, testing was conducted in a private area in the child's home.

A list of tests appears below in order of their presentation.

Day 1

Session I
- *Embedded Figures Test
- *Standard English Repetition Test
- *Test of Expressive Language
- Inventory of Test Taking Behaviors (A)

Session II
- Bender Gestalt
- *Say and Tell
- *Say and Tell
- Listen to the Story

Day 2

Session III
- Look-alikes
- Memory Task
- Inventory of Test Taking Behaviors (B)

Session IV	Matching Familiar Figures Test
	Finding Letters and Numbers
	How Much and How Many
	Inventory of Test Taking Behaviors (C)

*Tape recorded

Test administration time, varying difficulty of the tests, child interest, and procedural requirements (tape recording) were major considerations in establishing the order of test presentation.

In summary, a battery of 12 tests was given to the sample children. The battery was designed to provide a description of visual perception and cognitive styles, visual discrimination, language, quantitative concepts, and memory. A detailed description of each set of tests is reported in individual parts in Section III.

Table 7 presents a summary of the data collection activities through a reproduction of the Project calendar during summer, 1974.

Table 7

Asian American Education Project Summer Calendar 1974

June and July

SUN	MON	TUES	WED	THURS	FRI	SAT
				27 Training I UCLA 9-12:30	28 Training I UCLA 9-3:00	29
30	1 Community Contacts; visit the area	2 Training I UCLA 9-3:00	3 Training I UCLA 9-3:00	4	5 Training I UCLA 9-3:00	6 Training I UCLA 9-12:30
7	8 Home Interview I	9 Home Interview I	10 Home Interview I	11 Home Interview I	12 Staffing UCLA 9-12:00	13 Home Interview I
14	15 Home Interview I	16 Home Interview I	17 Home Interview I	18 Training II UCLA 8:30-12:30 Home Int. I	19 Training II UCLA 8:30-12:30 Home Int. I	20 Home Int. I
21	22 Home Interview I	23 Training II UCLA 8:30-5:00	24 Mother-child Observation	25 Mother-child Observation	26 Staffing UCLA 8:30-12:00 B-C Observ.	27 Mother-child Observation
28	29 Mother-child Observation	30 Mother-child Observation	31 Mother-child Observation			

August

SUN	MON	TUES	WED	THURS	FRI	SAT
				1 Mother-child Observation	2 Training Review UCLA 8:30-12:30	3 Mother-child Observation
4	5 Mother-child Observation	6 Home Interview II	7 Home Interview II	8 Home Interview II	9 Training III UCLA 9-3:00	10 Home Interview II
11	12 Home Interview II	13 Training III UCLA 9-3:00	14 Home Interview II	15 Home Int. II	16 Training III UCLA 8:30-5:00	17 Home Interview II
18	19 Home Interview II	20 Training III UCLA 9-3:00	21 Home Interview II	22 Training III UCLA 9-3:00	23 Child Testing	24 Child Testing
25	26 Child Testing	27 Child Testing	28 Child Testing	29 Child Testing	30 Child Testing	31 Child Testing
					*Preparation for Home Interview IV	

September

SUN	MON	TUES	WED	THURS	FRI	SAT
1	2 Child Testing	3 Child Testing	4 Child Testing	5 Child Testing	6 Staffing* UCLA 8:30-12:30 Child Testing	7 Child Testing
8	9 Child Testing	10 Child Testing	11 School Observation	12 School Observation	13 School Observation	14
15	16 School Observation	17 School Observation	18 Staffing UCLA 8:30-12:30	19	20	21
22	23	24	25	26	27	28
29	30					
					*Preparation for school observation	

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SECTION III

PRELIMINARY ANALYSIS OF DATA

Introduction

Section III is comprised of seven parts, each of which reports the preliminary results of the data collected by the Asian American Education Project. These data were collected to describe the learning characteristics and family background of children in this study. These data are not intended to provide definitive information of Asian American children in general nor are they intended as data to be used for comparative purposes. As we noted in our introductory remarks, we hoped to provide an informational base upon which future studies on Asian children could be designed.

We also hoped some of the information could be used in designing curricula as well as teacher training. However, we would like to offer several cautions with respect to use of our data for educational planning. Related to our remarks on the hypothesis-generating potentials of the Project, we cannot advocate specific instructional strategies, curricula, or teacher training techniques. All that our present data can contribute to these educational problems is to suggest possible strategies and curricula, which must be evaluated for their effectiveness once they are implemented. With respect to teacher training regarding Asian American children, our data provide the teacher with some hypotheses about Asian children, each of which must be tested in her encounter with the individual child.

Finally, in relation to the discussion of the educational

implications of our data, we would like to articulate our views on curricula based on ethnic group research. Cronbach (1969) has addressed the problem squarely: Education for what purposes? What are we educating children for in terms of present and future society and in terms of their functioning as members of their ethnic groups (should they so choose)? Cronbach's (1969) argument was stated in relation to Jensen's (1969) idea that "disadvantaged children" should be taught by rote methods because they appear to do well in Level I-type tasks. However, Cronbach notes, "the cut-and-dried answers that can be learned by rote are not the answers that one needs if he [the child] is to cope with a changing world and to live an appreciative and expressive life" (p. 193). Hence, we need to preface all our applications regarding the learning characteristics of children in terms of the goals of education, and to find alternative means of achieving these goals for all children.

Another means of approaching the curricula and instructional strategy issue is that advocated by Cole and Bruner (1970) who state that children from different ethnic groups have the same underlying competency. They argue that differences in performance are related to the different situations in which individuals from different groups find it appropriate to express their skills. Hence, the role of the instructor is to identify those situations and tasks which elicit the child's competency.

We do not blithely approach these issues. There is a great need for basic research on learning characteristics as well as careful evaluations of the application of this research to education (Cronbach, 1975).

Given these cautions, then, we present the preliminary findings

of the Project in Section III. All data presented in this report are organized by ethnic group: Chinese, Japanese, Korean, Pilipino, and Hawaiian. Ninety-one children and their families participated in the Project. However, seventy-nine children completed the child testing phase of the Project. This discrepancy between the total sample and those who completed testing was due to the mobility of several of the Hawaiian and Pilipino families during the study, parental consent, and the child's cooperation. Future reports will discuss the relation of these child testing data to demographic variables. In summary, Section III is organized into seven parts: Part I - The Child: Cognitive Styles; Part II - The Child: Psychomotor Development and Visual Discrimination; Part III - The Child: Quantitative Concepts; Part IV - The Child: Language Behavior; Part V - The Child: Memory; Part VI - The Child: Test-taking Behaviors; Part VII - The Child and his Family, including the two home interviews and the observations of mother-child interaction in a structured teaching situation.

Section III, Part I

Cognitive Styles

Two aspects of cognitive styles were investigated in the present study, field articulation and conceptual tempo. Both constructs appear to be important in the investigation of learning characteristics and problem-solving styles in children. Individual differences in field articulation and conceptual tempo are believed to have important implications for the development of educational curriculum (Hallahan, 1970; Slaughter, 1969) and have already prompted the development of experimental school programs designed to utilize particular cognitive styles (Ramirez & Castenada, 1973). Comprehensive reviews of research on cognitive styles have recently been published (Coop & Sigel, 1971; Kagan & Kogan, 1970; Keogh, 1973).

Field Articulation

Rationale. Research on field articulation has primarily investigated individual differences in the use and organization of perceptual and cognitive information in problem-solving. Witkin and his associates (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962; Witkin, Lewis, Hertzman, Mathover, Meissner, & Wagner, 1954) have suggested that development is characterized by increasing articulation or differentiation in problem-solving activity. Further, Witkin (Witkin, et al., 1962) has suggested that styles of analyzing problems are consistent across perceptual, cognitive, and affective activities. Most field articulation research, however, has been primarily in the area of perceptual activities. Specifically, investigators have concentrated on the dimension of field independence-dependence.

Field independence-dependence refers to the amount of differentiation in a perceptual field. Given a perceptual task, such as selecting a figure embedded in a complex perceptual design, a "field independent" individual differentiates or separates the design into its component parts, or "overcomes" the influence of the surrounding perceptual field. The "field dependent" individual, on the other hand, perceives the complex field as a whole and is influenced by task-irrevelant surroundings. Both constructs are believed to be components of more global, analytic dimensions of problem-solving (Keogh, 1973).

Keogh (1973) notes that while field independence and field dependence have been considered by some investigators as not differing in their consequences for achievement, an implicit value judgment favoring field independence seems apparent in formal schooling. Field independence appears to be more compatible with an achievement-oriented society and educational system. In her review, Keogh cites evidence that field independent children perform better on perceptual structuring tasks and are more task-oriented than field dependent children. Field dependent children glance away from the task more often in problem-solving situations. Field independence and reading success appear to be related. Keogh further indicates, however, that other investigators have found field dependent subjects more sensitive to social cues, more apt to demonstrate incidental learning, and more successful in simple pattern recognition at faster exposure speeds than field independent subjects.

Much evidence supports the field independent-dependent construct as a significant dimension of individual differences. It

seems reasonable to speculate that a given educational environment may differentially affect the learning of children with different perceptual styles. Consideration of individual differences in perceptual style in selection of instructional materials and techniques, curriculum, and settings might facilitate learning. Further, there is some evidence that children of different ethnic groups often display characteristic learning styles. It may, therefore, be important to investigate field articulation styles when exploring the learning characteristics of minority children such as Asian Americans (Ramirez & Castenada, 1973). Therefore, the Project attempted to measure field independence-dependence in sample children.

Measurement. The Early Childhood Embedded Figures Test (EC-EFT) was administered to sample children as a measure of field independence-dependence. The EC-EFT was developed by Banta and his associates (Banta, Sciarra, Jett, & Gilbert, 1969) for use with 3- to 6-year-old children.

The measurement techniques for the EC-EFT are similar to that employed by other experimenters (Goodenough & Eagle, 1963; Karp & Konstadt, 1963). The EC-EFT requires the subject to disembed a geometric form similar to an ice cream cone in 14 stimulus pictures of increasing difficulty. Some pictures were realistically illustrated while others were abstract, geometric configurations. Examples of the figures and detailed administration instructions can be found in Appendix G. The test was administered to children individually.

Field workers presented each child with a cardboard cutout of an ice cream cone-like figure. The child was asked to identify the

object and was then presented the first of three training trials and asked to place the cutout "ice cream cone" directly over a drawing of a similar figure found in the pictures presented. Upon successful completion of three training trials, the 14 stimulus pictures were individually presented. Children were encouraged to place their cutout over the drawing of a cone found on a stimulus picture, but at no time were the subjects prompted to a particular area of the picture. Whenever a child did not respond within 90 seconds, he was asked if he wished to make a guess or to go on to the next picture.

Responses were given a score of one if correct, zero if incorrect. Total score was the number of trials correct. Therefore, the range of scores was from 0 to 14. A score of 0 would indicate the most field dependent score possible while a score of 14 would indicate the most field independent score possible. Only the child's first responses were scored. Placement of the geometric cutout on the stimulus picture was required to be within 1/4 of an inch of the target stimuli in order to be scored correct.

Results. Results of the EC-EFT testing are summarized by ethnic group on Table 8. The mean for Chinese children was 11.39 with the mean for boys 11.11 and for girls 11.67. The mean for Japanese children was 11.05 and for boys 10.6, for girls 11.50. For the Korean sample of children, the mean on the EC-EFT was 11.0 with boys scoring a mean of 11.44 and girls 10.55. Mean scores for Pilipino children was 9.81. Pilipino boys scored 8.83 and girls 10.4.

Table 8

EARLY CHILDHOOD-EMBEDDED FIGURES TEST
MEAN AND STANDARD DEVIATION
RANGE OF SCORES 5-13

Ethnic Group	Total			Boys			Girls		
	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N
Chinese	11.39	1.38	18	11.11	1.52	9	11.67	1.15	9
Japanese	11.05	1.12	20	10.6	1.20	10	11.50	0.81	10
Korean	11.0	2.18	18	11.44	1.50	9	10.55	2.63	9
Pilipino	9.81	1.67	16	8.83	1.34	6	10.4	1.56	10
Hawaiian	12.0	1.41	12	12.0	1.58	4	12.0	1.32	8
TOTAL SAMPLE	11.01	1.73	84	10.79	1.70	38	11.19	1.73	46

Note: Test range 0-14.

RTG:TG

Hawaiian children scored a mean EC-EFT score of 12.0 for boys and for girls 12.0. The mean scores on the EC-EFT for the total sample of Asian American children was 11.01 S.D. = 1.73. For the total sample of boys, the mean score was 10.79, S.D. = 1.70, for girls 11.19, S.D. = 1.73. The standard deviation for each group was generally less than 2 points.

With the exception of Pilipino children, the mean and standard deviation for each group of children appear to be quite similar. Results of the EC-EFT measure in this study compared well to studies employing the same measure with similar aged Caucasian children from middle socioeconomic backgrounds. Keogh, Welles, and Weiss (1972), for example, reported means of 11.48 and 11.83 respectively for their sample of white middle class 4- and 5-year-old boys and girls.

The relatively high scores by sample children on the EC-EFT may be indicative of a generally field independent style among Asian American children in our sample or may be a reflection of the ease of the test. Although Banta, et al. (1969) designed the test for 3- to 6-year-olds, and sample children ranged from 4.5 to 5.5-year-olds, sample children in general had little difficulty with test items. While ease of the test cannot be eliminated as possible interpretation of the present results, they may be interpreted to suggest that the Asian American children in the present sample will enter school with well-formulated independent field articulation styles.

Future examinations of EC-EFT data will analyze the inter-correlations of the EC-EFT results with other child testing data and demographic information. Correlations with the language, psycho-motor, and visual discrimination components of the child test data

will be of particular interest.

Conceptual Tempo

Rationale. Kagan (1966) describes a child's conceptual tempo, or his position on the dimension of reflection-impulsivity, as the degree to which (s)he reflects on alternative solutions when many response possibilities are available simultaneously. Individuals with fast or impulsive conceptual tempo respond rapidly with the first solution that seems appropriate. Individuals who delay before responding, considering and comparing available alternatives, are considered reflective. Reflection appears to be positively related to both performance on reasoning tasks (Kagan, Pearson, & Welch, 1966) and accurate word recognition (Kagan, 1965) in primary school children.

Kagan and his associates (Kagan, Moss, & Sigel, 1963) observed that when presented with groups of stimuli, individuals differ in their classification and categorization of stimuli. Further investigations lead these researchers to conclude that some individuals select specific elements of stimulus figures as the primary means for grouping, while others regard each stimulus as a whole and classify figures according to globally shared relationships. A third but small group of individuals have categorized stimuli according to underlying inferences made by the individual about the stimuli. These three problem solving strategies have been referred to as analytic, relational, and inferential, respectively (Kagan, Rosman, Day, Albert, & Phillips, 1964).

After investigating individual differences in these three problem-solving strategies, Kagan, et al. (1964) focused on the study

of analytic and relational style. They note that individual style is consistent over time and task. Further, analytic style appears to indicate a reflective approach to problem solving, where the individual delays response and inspects each stimulus before arriving at a response. Analytic style is also characterized by the ability to ignore distracting stimuli and ability to reflect over possible solutions to a problem before making a decision (Becker, 1973; Keogh, 1973). Thus, analytic style has become encompassed in the operational definition of reflectivity.

Relational style has been characterized as being associated with short latency of response and frequent errors in problem-solving. Presumably, individuals who are characterized as relational are impulsive in their decision making, often making superficial examinations and judgments based on the broad similarities of the stimulus under investigation. Thus, this problem solving style has been operationally defined within the construct of impulsivity (Becker, 1973; Keogh, 1973).

Investigation of conceptual tempo or reflection-impulsivity is critical when attempting to describe learning characteristics and school preparation in children. Research supports the notion that reflectivity may be adaptive in problem-solving situations in school (Keogh & Donlon, 1972; Weinberg, 1968). Weinberg, in his review of literature, suggests that reflective children are more persistent and make fewer errors on serial learning tasks than impulsive children. He also suggested that reflective children are affectively more motivated and confident in school. Others, however, suggest that flexibility or conceptual tempo depending on the situational context

is perhaps the more adaptive mode (Becker, 1973; Loo & Wenar, 1971; Maccoby, Dowley, Hagen, & Degerman, 1965). But whether it is flexibility in conceptual tempo or consistent reflective style that is important, it appears that understanding the dimension of conceptual tempo may provide useful information for curriculum modification, teacher training, and child learning. For these reasons the Project examined conceptual tempo in sample children by employing a modified version of Kagan's (Kagan, et al., 1964) Matching Familiar Figures (MFFT).

Measurement. A modified version of the Matching Familiar Figures Test (MFFT) was administered to sample children as a measure of reflection-impulsivity. This version consists of four items from Kagan's original form and four from Banta's (Banta, et al., 1969) version developed for use with preschool age minority children.

The modified MFFT is similar in format to other reflection-impulsivity tests (Kagan, et al., 1964; Banta, et al., 1969). The modified MFFT was made up of eight sets of items, two for practice and six for the actual test. Each set was comprised of one standard pictorial stimulus and six variants. The standard picture was shown on the left hand page of a booklet, and the six variants appeared on the right hand page. The test required the child to select from the six variants the one that exactly matched the standard. If the first selection was wrong, the child was asked to select again until the correct variant was indicated. Testers recorded time or latency of the first response, number of errors for each set, and order of errors for each set. Response latency was collected with the aid of a stop watch and is considered a general measure of conceptual tempo.

Number and order of errors allowed for more detailed analysis of the data. Detailed instructions and examples of test items can be found in Appendix H.

Results. For each child, average latency time was calculated for the six test trials. The figures presented in Table 9 represent means and standard deviations of children's average latency time organized by ethnic group and the total sample.

The mean and standard deviation for Chinese sample children was 9.55 and 2.89 respectively. Japanese and Korean sample children had means of 6.70 and 5.79 with standard deviations of 4.79 and 2.96, respectively. Pilipino sample children had a mean of 5.35 and a standard deviation of 1.65. Hawaiian sample children's mean equaled 7.33. They had a standard deviation of 3.29.

These results indicate that the Chinese sample, in general, demonstrated a more reflective response latency than any of the other groups. Boy-girl comparisons for the Chinese sample differed from boy-girl comparisons of other ethnic groups. Chinese boys tended to be much more reflective than Chinese girls. The average latency time for Chinese boys was nearly twice that of males in other ethnic groups. No conclusions can be drawn from this descriptive look at the MFFT data. Future reports will investigate the characteristics of Chinese boys, particularly additional child testing data, in order to determine other characteristics which may be related to their long average response latency.

Table 9

MATCHING FAMILIAR FIGURES TEST (LATENCY)*
MEAN AND STANDARD DEVIATION
RANGE OF SCORES 2.02-24.92

Sample	Total $\bar{X}$	Total S.D.	Total N	Boys $\bar{X}$	Boys S.D.	Boys N	Girls $\bar{X}$	Girls S.D.	Girls N
Chinese	9.55	2.89	18	11.14	3.13	9	7.96	1.35	9
Japanese	6.70	4.79	20	5.36	1.78	10	8.05	6.26	10
Korean	5.79	2.96	18	5.73	3.52	9	5.85	2.27	9
Pilipino	5.35	1.65	15	5.05	1.79	6	5.55	1.52	9
Hawaiian	7.33	3.29	8	6.71	3.07	3	7.69	3.36	5
TOTAL SAMPLE	6.95	3.70	79	6.78	3.70	37	6.98	3.73	42

* Average latency time over six trials. Latency is defined as time lapsed between presentation of stimuli and child's first response.

RTG:TG

For future examinations of the MFFT data, we intend to investigate the response accuracy of impulsive and reflective children and patterns of errors made by children with different conceptual tempos. The intercorrelations of these test data with other child testing data and demographic information will also be examined.

Section III, Part II

Psychomotor Development and Visual Perceptual Discrimination

This section reports data collected on the psychomotor development and visual discrimination abilities of the sample children. Because of their apparent relation to school readiness, it is postulated that psychomotor development and visual discrimination performance during early childhood are important factors to consider when assessing the learning characteristics of children.

Psychomotor Development

Rationale. The study of psychomotor development has had a long history in psychological research. In contemporary clinical and educational research, investigations of the psychomotor domain have included visual-perceptual organization, visuo-motor abilities, and perceptual-motor behaviors (Keogh & Chan, 1975). This rather broad definition of the psychomotor domain includes tasks which involve motoric expression of visually organized materials, generally paper-and-pencil copying tasks of visual stimuli. Comprehensive reviews of various aspects of this broad psychomotor domain have been reported by Allen (1967), Myers and Hammill (1969), and Keogh and Chan (1975).

The utility of form-copying tasks in assessing psychomotor functioning was demonstrated by the work of Lauretta Bender (1938) and others (Keogh, 1966; Keogh & Becker, 1974; Keogh & Smith, 1961). Bender developed a form copying task which consists of nine simple line drawings derived from patterns used in early Gestalt studies of perception. Since its early development, researchers and clinicians have used the Bender-Gestalt or Bender test as a projective person-

ality instrument, as a diagnostic test for brain injury, and as a measurement of personality organization and other psychological factors. While some of the uses of the Bender format are dubious and not supported by research evidence, aspects of the Bender test may have a limited but important role in the assessment of young children's psychomotor development (Keogh & Becker, 1974; Keogh & Chan, 1975).

Accurate Bender drawings have been found to be positively associated with school readiness and achievement for young children (Keogh & Smith, 1967; Koppitz, 1964; Smith & Keogh, 1962). This relationship may be explained by the similarity in task requirements between form copying in a test of visual motor development and form copying in schooling. Reading, writing, and arithmetic all demand skills similar to those required in a test like the Bender. Furthermore, Keogh and Becker (1974) suggest that modified administration of the Bender can provide important information concerning the skill level of the child and the instructional mode (e.g. need for detailed demonstration) in which materials should be presented. For these reasons a modified version of the Bender was administered to the Project sample.

Measurement. The Keogh (Keogh & Becker, 1974) version of the Bender was administered individually to sample children. The Keogh revision consists of three of the nine original Bender-Gestalt designs which were selected for a variety of form requirements and because they appear to show differential changes with age. Copies of the figures used and the detailed administration instructions can be found in Appendix I.

The three designs are drawn under three different conditions:

1) memory--the design is exposed for 10 seconds, then removed, and the subject is asked to draw the design from memory; 2) copying--the design is presented and left in front of the subject so that (s)he may see it while drawing; 3) demonstration--the design is presented and left in view of the subject while the experimenter draws the figure with the subject watching. The subject then draws the figure. These three modes of presentation permit an assessment of memory, visual perception, and constructional strategy skills. If a subject reproduces the figure successfully under the memory condition, he is not presented with the copying and demonstration conditions. A subject who fails on the memory condition is given the same design under the copying condition. If (s)he is not successful under the copying condition, the child is given a demonstration of how the figure may be copied and is provided a model of a copying strategy. (S)he is then asked to attempt the drawing for a third time.

Failure to reproduce the figure in the memory condition but accurately copying the drawing in the copying condition may indicate difficulties in remembering the figure and thus suggest possible instructional modifications that are not designed to rely on memory. Those children who fail in the copying mode but succeed after demonstration of a drawing strategy (demonstration condition) may be children who are not perceptually deficient but who lack the experience or knowledge of possible figure construction strategies. Children who fail in all three conditions may have serious perceptual motor deficiencies.

Each figure was scored for correctness (accuracy) using the Keogh and Smith (1961) evaluation system of a 5-point scale developed

specifically for evaluation of kindergarten children. Each design was then given a score associated with the condition under which it was first drawn successfully: one point--memory; two points--copied; three points--demonstrated; four points--could not do. Summing individual scores for the three designs yields a total score ranging from 3 (highest performance) to 12 (lowest performance).

Results. The data were organized for each stimulus picture separately. The percentage and number of children who were able successfully to reproduce the stimulus picture under the memory, copying, or demonstration conditions were calculated for the total sample, by ethnic group, and by sex. A summary of results for the total sample and ethnic groups can be found in Table 10. Table 11 presents the results for each condition by ethnic group and sex of the child.

The data indicate that most of the sample children were able to complete successfully reproduction of the stimulus pictures in the memory, or most difficult condition. This result holds for the total sample and within ethnic and sex groupings. Stimulus picture 3 was apparently more difficult than stimulus picture 2 which in turn was more difficult than stimulus picture 1. This change of response over trials can be attributed to the Keogh revision used in the present study in which the three Bender figures were selected to increase in difficulty.

Sex differences on the Bender have yet to be analyzed in detail. Preliminary observation, however, suggests that sex differences vary by both ethnic group and stimulus design.

The preliminary presentation of the Bender data does not lend itself to detailed analysis. However, these preliminary findings suggest that in general sample children exhibit normal visuomotor

Table 10

BENDER-GESTALT TEST (KEOGH REVISION)
NUMBER AND PERCENTAGES FOR TOTAL SAMPLE AND ETHNIC GROUP

Ethnic Group	Condition	Design B.G.1	B.G.2	B.G.3
Chinese (N=18)	Memory	66.67 (12)	72.22 (13)	72.22 (13)
	Copying	16.67 (1)	16.67 (2)	22.22 (1)
	Demonstrate	5.55 (1)	11.1 (2)	5.55 (1)
	Couldn't Do	11.11 (2)	0.0 (0)	0.0 (0)
Japanese (N=21)	Memory	80.95 (17)	85.71 (18)	52.38 (11)
	Copying	9.52 (2)	16.67 (3)	38.09 (8)
	Demonstrate	9.52 (2)	0.0 (0)	9.52 (2)
	Couldn't Do	0.0 (0)	0.0 (0)	0.0 (0)
Korean (N=18)	Memory	61.11 (11)	72.22 (13)	44.44 (8)
	Copying	16.67 (3)	22.22 (4)	27.78 (5)
	Demonstrate	5.55 (1)	5.55 (1)	5.55 (1)
	Couldn't Do	16.67 (3)	0.0 (0)	22.22 (4)
Pilipino (N=14)	Memory	35.71 (5)	50.0 (7)	21.43 (3)
	Copying	28.57 (4)	35.71 (5)	57.14 (8)
	Demonstrate	21.43 (3)	14.28 (2)	7.14 (1)
	Couldn't Do	14.28 (2)	0.0 (0)	14.28 (2)
Hawaiian (N=9)	Memory	55.55 (5)	55.55 (5)	44.44 (4)
	Copying	7.14 (1)	7.14 (1)	7.14 (1)
	Demonstrate	7.14 (1)	33.33 (3)	7.14 (1)
	Couldn't Do	14.28 (2)	0.0 (0)	33.33 (3)
Total Sample (N=80)	Memory	62.50 (50)	70.00 (56)	48.75 (39)
	Copying	16.25 (13)	20.00 (16)	32.50 (26)
	Demonstrate	10.00 (8)	10.00 (8)	6.25 (5)
	Couldn't Do	11.25 (9)	0.0 (0)	12.5 (10)

Note: top number = percentages
bottom number = number of cases

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TABLE 11

BENDER-GESTALT TEST (KEOGH REVISION)
NUMBER AND PERCENTAGES FOR TOTAL SAMPLE AND ETHNIC GROUP BY SEX

ETHNIC GROUP	CONDITION	DESIGN B.G.1 M	B.G.1 F	B.G.2 M	B.G.2 F	B.G.3 M	B.G.3 F
Chinese (N=18)	Memory	66.67 (6)	66.67 (6)	66.67 (6)	77.78 (7)	44.44 (4)	100.0 (9)
	Copying	11.11 (1)	22.22 (2)	22.22 (2)	11.11 (1)	44.44 (4)	0.0 (0)
	Demonstrate	0 0 (0)	11.11 (1)	11.11 (1)	11.11 (1)	11.11 (1)	0.0 (0)
	Couldn't do	22.22 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Japanese (N=21)	Memory	90.0 (9)	72.73 (8)	90.0 (9)	81.82 (9)	80.0 (8)	27.27 (3)
	Copying	10.0 (1)	9.09 (1)	10.0 (1)	18.18 (2)	20.0 (2)	54.54 (6)
	Demonstrate	0.0 (0)	13.18 (2)	0.0 (0)	0.0 (0)	0.0 (0)	18.18 (2)
	Couldn't do	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Korean (N=18)	Memory	66.67 (6)	55.55 (5)	100.0 (9)	44.44 (4)	44.44 (4)	44.44 (4)
	Copying	11.11 (1)	22.22 (2)	0.0 (0)	44.44 (4)	44.44 (4)	11.11 (1)
	Demonstrate	11.11 (1)	0.0 (0)	0.0 (0)	11.11 (1)	0.0 (0)	11.11 (1)
	Couldn't do	11.11 (1)	22.22 (2)	0.0 (0)	0.0 (0)	11.11 (1)	33.33 (3)
Pilipino (N=14)	Memory	33.33 (2)	37.50 (3)	66.67 (4)	37.50 (3)	16.67 (1)	25.0 (2)
	Copying	33.33 (2)	25.0 (2)	33.33 (2)	37.50 (3)	50.0 (3)	62.5 (5)
	Demonstrate	0.0 (0)	37.50 (3)	0.0 (0)	25.00 (2)	16.67 (1)	0.0 (0)
	Couldn't do	33.33 (2)	0.0 (0)	0.0 (0)	0.0 (0)	16.67 (1)	12.50 (1)
Hawaiian (N=9)	Memory	75.0 (3)	40.0 (2)	50.0 (2)	60.0 (3)	50.0 (2)	40.0 (2)
	Copying	0.0 (0)	20.0 (1)	0.0 (0)	20.0 (1)	0.0 (0)	20.0 (1)
	Demonstrate	0.0 (0)	20.0 (1)	50.0 (2)	20.0 (1)	0.0 (0)	20.0 (1)
	Couldn't do	25.0 (1)	20.0 (1)	0.0 (0)	0.0 (0)	50.0 (2)	20.0 (1)
TOTAL SAMPLE (N=80)	Memory	68.42 (26)	57.14 (24)	78.95 (30)	61.90 (26)	50.0 (19)	47.62 (20)
	Copying	13.16 (5)	19.05 (8)	13.16 (5)	26.19 (11)	34.21 (13)	30.95 (13)
	Demonstrate	2.63 (1)	16.67 (7)	7.89 (3)	11.90 (5)	2.63 (1)	9.52 (4)
	Couldn't do	15.79 (6)	7.14 (3)	0.00 (0)	0.0 (0)	13.16 (5)	11.90 (5)

NOTE: Top number=percentages
Bottom number=number of cases

RT:TG

development assessed by the present measures. The relationships among visuomotor development, other learning characteristics, and demographic data will be explored in a separate report.

Visual Discrimination

Rationale. Visual discrimination and form recognition are skills that are basic to school competencies in reading, writing, and arithmetic. A child's familiarity with form and shapes, his ability to discriminate between different letters, numbers, and geometric forms, and his ability to match verbal labels with symbolic representations are all important precursors to competent school performance (Jungeblut, 1973).

In particular, investigations of visual discrimination of common forms and symbolic representations using the English alphabet are critical in light of the fact that in the present study many of the sample children did not use English as their primary language. Chinese, Japanese, and Korean-speaking children may not be at a disadvantage in visually discriminating forms and shapes, but may be inexperienced at matching verbal labels with symbolic representations of forms of letters and numbers used in the English language.

Investigation of visual discrimination of both shapes and forms and letters and numbers could provide important information about school readiness. Therefore, the Project undertook the investigation of both sets of visual discrimination tasks in order to assess the sample children's preparation in these areas.

Measurement. Two CIRCUS tests, LOOK-ALIKES and FINDING LETTERS AND NUMBERS, assessed visual discrimination and letter and numerical

recognition and discrimination respectively. These tests, like other CIRCUS tests to be described, were recently developed by the Educational Testing Service (ETS) for use with preschool and kindergarten age children. The CIRCUS Manual and Technical Report (ETS, 1974) indicates generally acceptable internal consistency and split-half reliability estimates for all tests used. The manual also presents comparative data for nursery school age and kindergarten age children analyzed by age, sex, socioeconomic status, race, preschool experience, and geographical area.

The LOOK-ALIKES test of visual discrimination requires subjects to match identical forms, objects, letters, and numerals, or to match groups or series of such figures. The test consists of 25 items, each presenting a standard stimulus and three alternative stimuli, only one of which exactly matches the standard. The child was simultaneously shown the standard and three alternatives and asked to select the matching alternative. Items were scored one for correct, zero for incorrect, yielding a total score with a possible range of zero to 25. Examples of the test items can be found in Appendix J.

FINDING LETTERS AND NUMBERS is a test requiring the matching of verbal labels with their symbolic representations. Because there is some evidence to suggest that preschoolers' knowledge of letter and number names is related to school readiness, later school achievement, and reading skill (ETS, 1974), this test was used to measure letter and mumerical recognition and discrimination. The test consists of 20 items assessing children's discrimination and recognition skills in response to verbal labels. The tester verbally presents

the name of a letter or number and asks the child to select from among three choices presented in visual form. Proficiency on this measure requires knowledge of letter and number names and ability to discriminate among similar open or closed curves, straight lines, and combination of curved and straight forms. Examples of test items can be found in Appendix K. Items are scored one for correct, zero for incorrect, yielding a total score with a possible range of zero to 20.

Both tests, LOOK-ALIKES and FINDING LETTERS AND NUMBERS, were administered to sample children during individual testing sessions.

Results. Preliminary results of the LOOK-ALIKES and FINDING LETTERS AND NUMBERS tests have been organized by ethnic group. Mean and standard deviation for LOOK-ALIKE scores by ethnic groups can be found in Table 12. For Chinese children, the mean score was 21.11 with boys' and girls' means being very similar: 20.78 and 21.44, respectively. The mean for Japanese children was 20.75 with little difference between boys and girls; 20.60 and 20.90, respectively. Korean children demonstrated similar scores to Japanese children with a mean of 20.44, for boys 20.22, for girls 20.67. Pilipino children scored slightly lower than other sample children with a group mean of 18.87; boys 18.17, girls 19.33. Even though only a small group of Hawaiian children participated in the child testing portion of the study, Hawaiian children were very similar to other sample groups on scores of the LOOK-ALIKE test with a group mean of 20.25, for boys

Table 12

LOOK ALIKES
MEAN AND STANDARD DEVIATION
RANGE OF SCORES 12-26

Ethnic Group	Total $\bar{X}$	Total S.D.	Total N	Boys $\bar{X}$	Boys S.D.	Boys N	Girls $\bar{X}$	Girls S.D.	Girls N
Chinese	21.11	2.45	18	20.78	2.30	9	21.44	2.54	9
Japanese	20.75	3.21	20	20.60	3.75	10	20.90	2.55	10
Korean	20.44	3.89	18	20.22	3.55	9	20.67	4.19	9
Pilipino	18.87	2.25	15	18.17	1.95	6	19.33	2.31	9
Hawaiian	20.25	4.84	8	21.0	2.94	3	19.80	5.63	5
TOTAL SAMPLE	20.35	3.37	79	20.19	3.21	37	20.50	3.49	42

Note: Test range 0-26

RTG:TG

20.19, for girls 20.50. For the 79 children taking the test, the total group mean for LOOK-ALIKES was 20.35, 20.19 for boys and 20.50 for girls.

In each ethnic group and in the sample as a whole, few sex differences or inter-group differences appeared in form and shape discrimination as assessed by LOOK-ALIKES. Further analysis of the data will be presented in a separate report which will examine intra-group differences and the relationship of this measure of form and shape discrimination to other factors, such as quantative concept development, language proficiency, family characteristics, socialization goals, and other demographic variables.

When comparing the results of the LOOK-ALIKES test in the present study to a qualitative interpretation of range scores presented by CIRCUS developers (ETS, 1974), the present sample of children as a group performed very well. A range of scores from 19 to 24 is said to be an indication of children who are "generally competent in matching identical forms....including relatively complex forms (ETS, 1974, p. 50)."

Preliminary results of the FINDING LETTERS AND NUMBERS test have been summarized by ethnic group and presented in Table 13. This test of matching verbal labels with their symbolic representation resulted in more variability in the group of sample children than in LOOK-ALIKES. Examination of Table 13 indicates possible sex differences particularly in the Chinese and Korean samples and large standard

Table 13

FINDING LETTERS AND NUMBERS
MEAN AND STANDARD DEVIATION
RANGE OF SCORES 6-20

Ethnic Group	Total $\bar{X}$	Total S.D.	Total N	Boys $\bar{X}$	Boys S.D.	Boys N	Girls $\bar{X}$	Girls S.D.	Girls N
Chinese	15.83	4.17	18	14.00	4.55	9	17.67	2.71	9
Japanese	17.65	2.65	20	17.10	3.08	10	18.20	1.99	10
Korean	13.83	4.47	18	15.11	4.12	9	12.55	4.45	9
Pilipino	14.40	3.16	15	15.50	2.99	6	13.67	3.05	9
Hawaiian	16.62	1.49	8	16.33	1.70	3	16.80	1.33	5
TOTAL SAMPLE	15.64	3.82	79	15.54	3.84	37	15.74	3.80	42

Note: Test range 0-20

RTG:TG

deviation in some groups suggesting possibly significant intra-group variation. This measure was designed to assess matching of verbal labels with their symbolic representation, with verbal labels and symbols in English. For these reasons, variance in the sample might be hypothesized as a function of characteristics other than differential skill levels. Variance in the sample in general and within each group may be a function of English language proficiency or demographic or socialization variables unique to high or low performers. Intercorrelations between this test and other factors in the data bank will be reported in subsequent Project reports.

Comparing the group mean score of the present sample to the national norms reported by ETS (1974), the sample mean as a group falls within the 45th percentile. This, however, is to be expected since the mean sample score would indicate that a large percentage of the sample would fall above the 45th percentile and a large percentage would fall below. Our preliminary examination suggests that the score for Asian American children in the present study appears to vary normally, with some children performing well and others poorly. This result is meaningful when investigating minority children. Variation in minority populations, while appearing similar to norming populations, may not be related to the same independent factors. A future Project report will examine this hypothesis.

In general, the sample children performed well on tests of visual discrimination and recognition. Children appeared to be equally competent in visual form and shape recognition but possible intra-group differences were noted in letter and number recognition. Thus, it appears that while sample children are able to visually discriminate

forms, figures, letters, and numbers, matching verbal labels to letters and numbers in English presents a more difficult problem.

Section III, Part III

Quantitative Concepts

Investigation of quantitative concepts in young children is an important area of inquiry. The young child at age 4 to 5 years old begins to develop rudimentary understanding of quantitative concepts. Global mathematical concepts, such as the correspondence of various numbers of objects to a given symbolic number, begin to emerge in early childhood. Comparative and relational terms such as largest and smallest, short and tall, become more clear to the developing child. In addition, comprehension of numerical concepts, such as more and most and least and fewest, begin to be displayed by the young child (Jungeblut, 1973).

Rationale. The assessment of these areas of quantitative concepts are important in order to describe adequately the learning characteristics and preparation for schooling of young children prior to their entrance into formal schooling. Since mathematical studies is a critical area of schooling, assessment of emerging forms of complex quantitative concepts can provide important information to school planners and teachers. The manifestation of cultural differences and similarities in quantitative concept development could be of critical importance to educators. Furthermore, the relationship between quantitative concepts and individual differences in cognitive styles, psychomotor development, and language development may provide a general understanding of the interrelationships among learning characteristics, and hence offer suggestions for comprehensive integrated curriculum and planning.

Measurement. For these reasons the Project assessed quantitative concepts by administering a CIRCUS test, HOW MUCH AND HOW MANY, which measured quantitative concepts in three areas: children's understanding of the correspondence of numbers of objects to a given number or numeral, understanding of comparative and relational terms, and assessment of numerical concept development. An example of this test can be found in Appendix L.

Results. Preliminary results of the HOW MUCH AND HOW MANY testing are organized by ethnic group and summarized in Table 14. Total means and standard deviations are provided: The Chinese sample mean was 30.83, with a standard deviation of 4.89; for the Japanese sample of children, the mean and standard deviation were 32.0 and 4.91, respectively. Korean and Pilipino sample children had mean scores of 29.33 and 34.00 with standard deviations of 4.25 and 3.05 respectively. Hawaiian sample children's mean score equaled 27.25, with a standard deviation of 6.22. Mean score for the total sample of children equaled 31.02, with a standard deviation of 5.04. Except in the Hawaiian sample no apparent sex differences were noted.

ETS (1974) reports national normative data for the HOW MUCH AND HOW MANY test. In the normative sample the mean for nursery school children was 23.5, with a standard deviation of 7.06. The national sample of kindergarten children scored a mean of 30.53, the standard deviation equalling 6.21. A rough comparison between sample children's scores in the present study with normative data

Table 14

HOW MUCH HOW MANY
MEAN AND STANDARD DEVIATION
RANGE OF SCORES 15-41

Ethnic Group	Total $\bar{X}$	Total S.D.	Total N	Boys $\bar{X}$	Boys S.D.	Boys N	Girls $\bar{X}$	Girls S.D.	Girls N
Chinese	30.83	4.89	18	29.78	5.20	9	31.89	4.31	9
Japanese	32.00	4.91	20	32.90	5.32	10	31.10	5.28	10
Korean	29.33	4.25	18	28.78	5.29	9	29.89	2.77	9
Pilipino	34.00	3.05	15	33.67	3.12	6	34.22	2.93	9
Hawaiian	27.25	6.22	8	31.33	3.40	3	24.80	6.24	5
TOTAL SAMPLE	31.02	5.04	79	31.40	4.56	37	30.93	5.10	42

Note: Test range 0-41

RTG:TG

presented by the test developers suggests that Asian American children, in general, performed very well on this test of quantitative concepts. Future analysis may illuminate the relationship between quantitative concept development and other learning characteristics. Since the measure employed assessed characteristics other than just knowledge of numbers, the relationship of the quantitative data and other information in the Project data bank will be of great interest. Specifically, as mentioned previously, the relationship between quantitative concept development and such factors as cognitive styles differences, psychomotor development, and language development may provide a more comprehensive description of children's performance in the area of quantitative concept development.

Section III, Part IV

Language

The language behavior of sample children was a major concern of the Project. It was suspected that many of the children in the sample would be bi-lingual or would speak only the Asian language appropriate to their ethnic background. Language proficiency in English was a particular interest in view of the limited or often non-existent bi-lingual educational programs available in school settings for Asian children. For these reasons the Project investigated language proficiency. The language behavior of sample children as described in Home Interview I was previously reported in the description of the sample. This section describes three areas of language proficiency examined during the child testing phase of the Project: receptive language, productive language, and expressive language. A test of standard English performance was also administered.

Language testing was conducted in the language in which the child felt most comfortable. While this does not allow for a careful analysis of English language proficiency, the Project was more concerned with describing the children's basic language proficiency, which was often not limited to English. Children were first asked to respond in English. If the child did not respond, then the appropriate Asian language was employed. Qualitative differences in language proficiency are hypothesized between those children who are not proficient at all in any language and those who are not proficient in English. Therefore, the Project was most concerned with general language proficiency, not just English language proficiency.

The complexity of the language data which were collected permits only a description of the data bank in this report. A future Project report will be devoted exclusively to the language domain.

Receptive Language

Receptive language refers to the ability of a child to comprehend spoken language. The ability to listen to connected and meaningful discourse, a skill involving comprehension, interpretation, and recall of oral language, has significance for social and emotional functioning, school readiness, and self-fulfillment in adult life (ETS, 1974). The CIRCUS test, LISTEN TO THE STORY, measures receptive language skills required for understanding an orally presented story. The test contains 25 3-choice items connected into a story about children going to a circus. Sets of three questions are asked at intervals throughout the story. Examples of a part of the story can be examined in Appendix M. The test has a possible range of 0 to 25 and may be subscaled into comprehension and interpretation dimensions. This test was given individually to sample children only in English.

Productive Language

Productive language was defined as the ability to use language in order to produce a meaningful discourse. In a sense productive language was defined as comprehensible, oral speech.

Productive language was assessed by recording verbatim children's stories. Two stimulus pictures were used to provide standard material for their stories. The first was a standard picture developed as Part III of the CIRCUS test, SAY AND TELL (ETS, 1974). This picture was a large colored drawing of circus animals at a birthday party. The

second picture was developed by the Project and attempted to provide sample children with presumably more "culturally relevant" stimuli. Examples of these stimuli can be found in Appendix N. A picture with similar themes was developed for each ethnic group in which "culturally relevant" or common materials were illustrated. The Project-developed pictures allow for a comparison of stories for each child generated from the standard SAY AND TELL and the culturally relevant Project pictures. Presentation of each picture was systematically alternated within each ethnic group.

Field workers were instructed to provide children encouragement without prompting or "leading" the child to respond. Field workers were also requested to give the instructions in English. Children, however, had the option to tell their stories in the language in which they felt most comfortable. Therefore, some stories were related by the children in English while others were related in an Asian language.

Children's stories were recorded verbatim and were coded along qualitative dimensions including the child's use of elements such as action, imagery, affect, characterizations, and organization. Total qualitative scores may range from 0 to 12 for each story. One point is scored for each of the 12 qualities present in the child's story: labels, verbs, modifiers, syntax (sentences or phrases), sequence, plot extension, organization, feeling, rhythm and cadence, comparison, character extension, and spatial or positional terms. Stories told in an Asian language were transcribed into English for scoring.

Expressive Language

The Test of Expressive Language (TEL) was administered to sample

children as a direct measure of language production. Similar in intent to the measures of language production described above, the TEL was developed as a short, easily administered instrument for evaluating the level of expressive language in young children (Crowell, Fargo, & Noyes, 1969).

The TEL requires children to respond verbally to a series of graded questions about body parts and about actions, objects, and concepts encountered in home and school. The test contains 75 short items administered individually to children in a period of approximately 15 minutes. The test was designed for children ages 3 to 7. For many items the experimenter shows the child objects (e.g., ruler, penny, fork) or actions (pantomiming writing on a scratch pad, reading a book, counting fingers) to provide a cue for the required verbal label. Other items require the child to name an object, describe its function, or to state opposites using an analogy format. Items are scored 1 for correct, 0 for incorrect, yielding a possible total score of 0 to 75. Testers also recorded the number of items asked in a non-English language and number of non-English responses (depending on the subjects' facility and comprehension in using English). A detailed description of the TEL can be found in a summary by the test authors presented in Appendix O.

Standard English Performance

The Standard English Repetition Test (SERT) was also administered to the sample children. Day, Boggs, Tharp, Gallimore, and Speidel (1974) suggest that educators' current interest in adapting programs to linguistic differences presented by non-standard English speakers

requires a measure of standard English performance. The Standard English Repetition Test (Day, et al., 1974) assesses standard English performance of young children ages 5 to 6. The test uses the technique of controlled elicited imitation, requiring the subject to repeat a series of standard English sentences read to him by the examiner. This method assumes that a child who comprehends a sentence or is familiar with its syntax, phonology, and vocabulary will be more likely to repeat the sentence accurately. There are two forms of the SERT, A and B, each containing 15 sentences of varying difficulty. A copy of the two forms of the SERT can be found in Appendix P. Each sentence includes at least one grammatical feature observed to show variation in non-standard speech. Day, et al. (1974) report satisfactory form-form and test-retest reliabilities and concurrent and criterion validity. SERT tests a total of 29 features of standard English and includes four possible response categories for subjects who speak a non-standard variety of English: standard English, other standard English, non-standard English, and no response. Summing the scores for each category determines the subject's standard English performance.

The SERT testing was supported by the Kamehameha Early Education Project, Honolulu, Hawaii (Gallimore & Tharp, 1971) and with the cooperation of Dr. Richard Day. SERT data from the present project will be compared with data collected in Hawaii on Hawaiian and Japanese American children. Analysis of the SERT data will be presented in a later report.

Section III, Part V

Memory

Studies on memory abilities have generally assessed age-specific differences in task performance in terms of quantity and quality of memory capacity (Belmont & Butterfield, 1969). An alternative conceptualization views memory as applied cognition. Memory is conceptualized as the epiphenomenon of the operations and cognitive processes of the individual in interaction with the materials to be remembered (Meacham, 1972). Thus, memory reflects the individual's ability to spontaneously select and engage in the appropriate activities to maximize that interaction.

Differences in memory task performance reflect differences in the organization or availability of mnemonic activities, i.e. memory strategies (Flavell, 1970). These strategies have almost exclusively been conceptualized as verbal mediation (Hagen, 1971). Memory activities have also been related to the presence or absence of certain cognitive activities, such as organizing, classifying, labeling, rehearsing, or verbal elaboration.

The particular memory task materials and procedures used in this study were adapted from Kingsley and Hagen (1969). The procedure, a short term serial memory presentation, was first used by Atkinson, Hansen, and Beinbach (1964) in an attempt to accommodate to the young child's short attention span and to mitigate the effects of experimental situation on task performance. Several studies using similar procedures have demonstrated improved task performance associated with age (Hagen & Kingsley, 1968) and I.Q. (Calfee, 1970; Ellis & Munger,

1966). There is also evidence that cultural and educational dimensions are significantly related to memory abilities as assessed by these tasks (McCarver & Ellis, 1972; Wagner, 1974).

Measurement. The material to be remembered is presented to the child in a game-like situation. Stimuli consist of cards with pictures of familiar objects (f) and abstract figures (a). A series of either six (a) cards or six (f) cards is presented to the subject one at a time in a particular serial order. After presentation of each card, the experimenter places them face down in a horizontal array in front of the child. A cue or probe card is presented which is identical to one of the six cards in the series just presented. The subject's task is to identify the corresponding card in the array and turn it over. The child continues turning cards until the correct one is found. In this manner, memory is assessed for each of the six serial positions. The children are required to remember pictures in each of the different serial positions for both abstract and familiar card series. Children view 12 different displays, six abstract and six familiar, with a different stimulus card correct in each of the serial positions. The child's correct first response and errors are recorded, yielding a possible range of scores from 0 (no items recalled on first response) to 12 (all items correctly recalled on first response), with subscores reflecting abstract items recalled (0 to 6) and familiar items recalled (0 to 6). An analysis of errors provides information concerning possible memory strategies reflected in the child's performance (Calfee, 1970).

A detailed description of the test instructions and sample test items can be found in Appendix Q.

At the end of the administration of the memory test, the child was interviewed about his performance on the memory items. The questions involved in the posttest interview were related to the child's awareness of his strategies for remembering the pictures, his awareness of the similarity and differences between the stimulus pictures, and his overall evaluation of the test items. The test administrator also completed a posttest questionnaire. These questions involved the tester's reflections on the child's behavior during the memory task. Questions about the child's attention level and behaviors exhibited during the test were noted. A copy of the posttest interview is also found in Appendix Q.

Results. Results of the memory test are not yet available. Data analysis of the memory testing will be organized by sex and ethnic group. The analysis of children's responses in the abstract or familiar conditions will be analyzed as well as serial positioning effects. An error analysis will also be attempted in order to determine possible memory strategies used by sample children.

Section III, Part VI

Inventory of Test-Taking Behavior

A number of recent articles have discussed the testing situation as an assessment situation (Cole & Bruner, 1972). These discussions focus on the influence of the tester (typically her race), the relation between the test's content and style and the situation or kinds of attributes which it claims to measure, and the constraints of the testing situation itself (Shapiro, 1973).

Considerably less attention has focused on the child's response to the testing situation in terms of his actual behavior. In one of the few studies on children's behavior in a testing situation, Hertzig, Birch, Thomas, and Mendez (1968) found that white, middle-class and Puerto Rican, working class children behaved significantly different in response to cognitive demands made within the context of an administration of the Stanford-Binet test of intelligence. Hertzig, et al. (1968) interpreted these findings as having important implications for the child's experience of schooling. Especially important in this regard is the teacher's perception of the child's ability, since the behavioral styles of the white and Puerto Rican children were influenced differentially by the demands of the testing situation. Most critical, these differences in style were sustained when I.Q. was comparable in the two groups. Thus Hertzig et al. (1968) suggest that instructional methods and learning conditions must be structured to take into account differences in behavioral style in response to a situation which demands cognitive functioning, such as in the classroom.

For these reasons, an Inventory of Test-Taking Behaviors was developed by Takanishi based on the Hertzig observations and a CIRCUS inventory of similar behaviors. The inventory samples eleven categories of child behavior including a quantitative and qualitative assessment of the child's eagerness or refusal to work on the test; requests for help; exhibition of test taking skills such as marking answers, keeping her place on the test; affective responses including enjoyment over test content; and behavior in relation to the tester such as monitoring and keeping eye contact.

The Project inventory can be found in Appendix R. As described in the procedures for child testing (Section II), the inventory was completed by the testers after three of the four testing sessions.

The results of the inventory are in the process of analysis and will be reported in the future.

Section III, Part VII

The Child and his Family

The importance of the family in contributing to school achievement has been of special interest in the context of the educational problems faced by children from minority ethnic groups (Coleman, et al., 1966; Jencks, et al., 1972). Much of the research has focused on sources of educational problems in the home setting and development of characteristics which may hinder the child's progress in the school setting. As Cole and Bruner (1972) have noted, this research has contributed to a theory of cultural deficits among children of the poor.

Less attention has been focused on the possible discontinuities in the socialization experiences which children receive in the home and those they are exposed to once they enter school (Getzels, 1969; Getzels, 1974). Scribner and Cole (1973) have also written about the informal learning situation of the home and ethnic culture, the formal learning situation of schools, and the need to integrate experiences in both settings to maximize learning.

In approaching the study of Asian American children, then, we also attempted to focus on socialization experiences in the home, and to explore the influence of these experiences on the future educational experience of the child. Parents were conceptualized as socializers of the child into the pupil role with expectations and learned behaviors which subsequently structure his interaction with the teacher, school tasks, and peers.

In most research on the family, the focus has been on the

mother's influence on the education of the child(Leichter, 1974). Families in American society have been also approached as nuclear families. In our own research, we attempted to determine the family structure of our sample since families in different cultures and times are defined differently. We also attempted to focus on the potential influence of other members of the nuclear and extended family, including the external social networks which influence and surround these families.

As a caution, these data on the family describe socialization processes in the summer prior to the child's entry into formal schooling. Assuming as we do that the child socializes and influences his parents (Bell, 1968), we expect that some of these processes will have changed with the child's experience with a non-familial agency.

In summary, we used two methods to examine socialization processes within the family. Two interviews were conducted in the home with the mother as the primary informant. These interviews were designed to obtain demographic as well as process information about these families. Systematic mother-child observations were also conducted with the Chinese, Japanese, and Korean samples in a structured teaching situation.

Home Interviews

Two interviews with the child's mother were conducted by field workers to obtain information about family background, life conditions, maternal attitudes toward education and the child, and her aspirations for her child's development and education. The first interview, Home Interview I, was often the first formal Project contact with the

family. After the mother-child observations had been made and before the child testing period, Home Interview II was conducted.

Home Interview I. The first home interview was designed to collect basic demographic and background information about the sample child and his family. Since this interview was, in most cases, the researcher's first contact with the family, a careful screening was made of the questions included in the interview schedule. Any question which was judged by the Project staff to be threatening, intrusive, or highly personal was dropped.

Following the work by Wolf (1963) and Dave (1963), a distinction was made between status--what the parents are--and process--what they do (styles of interaction with the child, socialization practices). Home Interview I focused on status variables including:

1. Child information--age, sex, ordinal position, preschool experience.

2. Demographic information on both parents--age, ethnicity, occupation, educational level, working schedules.

3. Family or household structure--number and availability of non-parental adults, number and age of siblings, caregiving patterns.

4. Language behavior of family--language spoken to the child, language spoken by the child to mother, father, siblings, relatives, and friends.

In sum, all of the information which was used to describe the sample (see Sample Description in Section II) was obtained from Home Interview I. A copy of the interview schedule is in Appendix B.

Home Interview II. The second home interview was based on the assumption that the field workers had established an adequate level of

rapport with the families. In some, albeit a minority of cases, field workers became "informal" counselors to their families. A copy of Home Interview II is in Appendix S. The following areas were tapped in the second home interview:

1. A description of a typical day in the child's life. Since we were not able to observe the sample children during the entire day, we asked the mother to describe a typical day for the child from the time he woke up until he went to sleep. The place and participants in the child's activities were noted, including the child's responsibilities, where he was allowed to play, and television viewing.

2. Preparation for schooling. Mothers were asked how they intended to prepare their children for school and the information about school which they would communicate to the children.

3. Expectations and aspirations for educational attainment. The mother was asked to identify the highest level of educational attainment which she expected for her child, as well as to determine factors which might prevent the child from this attainment. She was also asked to indicate a desirable occupation for the child.

4. Attitudes toward education and schools. The mother was asked to respond to a series of statements designed to tap her attitudes toward education, schools, and teachers.

5. Mother's involvement in community and ethnic activities. This section tapped the mother's involvement in civic, religious, sports, social, and political groups, including those which were mainly composed of Asian Americans. Her ties to the ethnic group as indicated by friends, media contact in the language (newspapers, movies, television shows), and observance of group holidays were also

probed. The importance of the child learning his ethnic heritage was examined.

6. Desired child development. Finally, the mother was asked to indicate desired skills and abilities which she was trying to develop in her child.

After the interview was completed, the field worker filled out an Interview Observation form (Appendix S) which noted the person(s) other than the mother who were present during the interview; whether person(s) other than the mother responded to the questions; language used; interruptions; ratings of maternal behavior during the interview; and comments and questions which the mother made.

The findings of the second interview are in the process of analysis and will appear in subsequent reports.

Mother-Child Interaction

A separate report is in preparation on the observations of mother-child interaction in a structured teaching situation for the funding agency of this component, the Spencer Foundation. In this section, an overview of the procedures, including the structured teaching situation, observer training, and coding analysis, and preliminary findings will be reported.

Structured teaching situation. Each mother-child dyad participated in a structured teaching situation in the family home. First, the mother was introduced to a "warm-up" task to allow both the mother and child to adapt to the presence of the observer and to feel more at ease in the situation. No recording of behavior was done during this period. The instructions were as follows, translated when appropriate

into Chinese, Japanese, or Korean.

> We are interested in how children learn. Here are two games for your child to do. I would like you to have (child's name) do these things in whatever way you think would give him a chance to do his best. Give as much or as little help as you like. Here's a puzzle to start off.

After the child had completed the puzzle, the mother was shown a Playpax model which was built from units of different shapes and colors. The instructions were as follows.

> Here are some building blocks and a model. I would like (child's name) to build a model exactly like the one I've shown you. Again, help (child's name) as much or as little as you like.

The mother and child were free to spend as much time as they liked on each part. Starting with the Playpax model, mother and child behaviors were recorded according to preset categories.

Observer training. The observers were three bilingual women (Chinese, Japanese, and Korean). Ethnic observers were trained because of the language commonly spoken in the homes and their sensitivity to ethnic-related verbal and nonverbal cues in interaction. Training in the use of the observational instrument and procedures took place over a period of five days. Following a discussion of the purpose of the observation, the observers viewed a videotape of a mother-child interaction which simulated the situation in the home setting. Each of the behavioral categories on the observational instrument was then explained. Using a series of videotapes which were developed specifically for training purposes, observers then coded mother-child interactions using the instrument. At the end of each tape, an assessment of inter-observer reliability (percentage agreement) was made using a trained graduate student as the standard. Each tape was viewed again

and disagreements were discussed. On the fifth day of training, reliability was assessed for each observer by using two videotapes which had not been previously viewed by the observers. Inter-observer reliability was established in excess of .85 before the observer began to make her observations in the homes.

Coding Analysis. Both mother and child behavior were coded in the teaching situation. Categories of maternal behavior included: (a) Verbal information processing--The mother provides information about the task by labeling, explaining, and structuring the task for the child (Which one comes next? You need another red circle. These are the round ones and these are the squares); (b) Verbal reinforcement--The mother praises, rewards, and supports the child's behavior (That's right! You're doing a great job!); (c) Physical information processing--The mother demonstrates, points out, moves materials, or provides other help or assistance through physical means (The mother hands the child the appropriate pieces; groups the materials for the child; points to a piece); (d) Attends to child's activity--The mother watches or supervises the child's activity without lending verbal or nonverbal assistance.

Categories of child behavior included: (a) Task-related verbalization--The child comments on the task, materials, his performance (This is easy; The blue ones are the prettiest; These yellow ones go over here); (b) Acceptance of maternal instructions or assistance--The child follows the mother's directions or allows her to assist him (Is this what you mean? Child allows mother to guide or direct his movements physically); (c) Attends to mother--The child listens to the mother's verbalizations or attends to the mother when she demonstrates

the task.

Finally, the total amount of time spent in the teaching situation, defined as the number of 10-second intervals observed, was computed.

Results. This presentation of data on mother-child interaction (Tables 15 to 17) must be considered very preliminary. Perhaps the most striking aspect of the results is the variation within each ethnic group on the mother and child variables. Since inter-observer reliability on these variables was established in excess of .85 before the researchers conducted the observations, and since the observations were scheduled during a two-week period, it is unlikely (although it cannot be entirely ruled out) that this variation is due to observer unreliability. A similar degree of within group variation was found by Hess and Shipman (1968) on a few variables in their study of Black mother-child pairs grouped by social class. However, it has been customary in research on ethnic and social class differences to disregard variations within designated categories of class and ethnicity and to focus on differences between these categories (Hess, 1970). Considering this variation within ethnic group and the small size of our sample, it is not possible to discuss patterns of mother-child behavior in the teaching situation which apply to each child and mother pair in the ethnic group. Furthermore, mothers and children within an ethnic group appear to behave quite differently when confronted with this teaching situation. These preliminary findings,

Table 15

MOTHER-CHILD INTERACTION IN THE CHINESE SAMPLE

(N=18)
Frequency of Occurrence

Variable	Male		Female		Both	
	X	S.D.	X	S.D.	X	S.D.
Mother						
Verbal Information	56.5	23.1	92.0	33.8	72.4	32.6
Verbal Reinforcement (Positive)	26.6	20.0	29.3	16.1	27.5	17.5
Physical Reinforcement (Positive)	3.9	4.8	5.0	3.4	4.2	4.2
Attends to Child's Activity	53.1	17.2	68.7	42.3	60.1	30.3
Child						
Task Related Verbalization	41.0	19.5	50.3	40.0	45.4	29.6
Acceptance of Instruction (Physical)	20.7	9.5	32.5	17.4	26.1	14.3
Attends to Mother	39.3	18.9	49.2	25.5	43.8	21.6

RT:TG

Table 16

MOTHER-CHILD INTERACTION IN THE JAPANESE SAMPLE

(N=21)
Frequency of Occurrence

Variable	Male		Female		Both	
	X	S.D.	X	S.D.	X	S.D.
Mother						
Verbal Information	90.3	49.8	97.3	28.8	93.8	38.7
Verbal Reinforcement (Positive)	16.6	9.9	16.4	12.5	16.5	10.8
Physical Reinforcement (Positive)	1.0	0	2.0	2.0	1.5	1.2
Attends to Child's Activity	44.8	30.2	53.1	57.8	49.0	44.0
Child						
Task Related Verbalization	41.0	28.9	27.2	29.2	34.1	28.8
Acceptance of Instruction (Physical)	12.0	6.6	12.7	4.6	12.4	5.4
Attends to Mother	33.7	22.7	43.4	16.3	38.6	19.4

RT:TG

Table 17

MOTHER-CHILD INTERACTION IN THE KOREAN SAMPLE

(N=18)
Frequency of Occurrence

Variable	Male		Female		Both	
	X	S.D.	X	S.D.	X	S.D.
Mother						
Verbal Information	74.0	34.2	73.7	48.7	73.7	40.2
Verbal Reinforcement (Positive)	14.4	7.7	21.2	14.1	18.0	11.5
Physical Reinforcement (Positive)	4.0	3.2	6.0	9.3	5.1	6.5
Attends to Child's Activity	67.1	49.7	54.7	56.7	60.6	51.0
Child						
Task Related Verbalization	26.9	10.7	20.9	19.2	23.7	15.3
Acceptance of Instruction (Physical)	27.8	15.0	20.7	11.5	24.1	13.1
Attends to Mother	83.4	36.8	80.7	33.9	82.0	33.3

RT:TG

then, raise some questions for dealing with ethnic groups as homogeneous entities.

Another consideration involves what meaning mothers and children attribute to the structured teaching situation. How the participants perceive the task and the behaviors appropriate to it may be important determinants of their behavior in that setting. This line of argument proceeds from the literature on child behavior in the testing situation (Shapiro, 1973). If we assume that each ethnic group perceives the task differently then it is somewhat questionable to compare the interaction variables across the ethnic groups. An additional, even more radical consideration, is the variation in perception of the task which might operate within the ethnic group itself. We are currently taking this matter under consideration, and hence have reported the data for each ethnic group on separate tables.

An important task ahead is to relate these mother and child variables to child performance on the different tests which were administered. It may be possible that the patterns of relationships obtained may be different for each group. In their work on a white sample, Tulkin and Coultz (1974) found different correlational patterns between maternal variables and child performance on standardized tests in their working-class and middle-class samples.

A complete report on mother-child interaction in the sample and the relation of the interaction variables to child performance on the tests will be made in a subsequent report.

SECTION IV

RECOMMENDATIONS FOR FUTURE INQUIRY

The Asian American Education Project was designed to provide baseline information on the cultural, family, and learning characteristics of children from Asian and Pacific Island ancestry prior to their entry into formal schooling. We were also interested in the relationship of these characteristics to patterns of competency which were exhibited by the children. This report described the Project's background, method, and preliminary findings. In the present section, we will discuss recommendations for future research based on this preliminary report. These recommendations are divided into two general areas. First, we outline future Project reports. We then suggest directions for future inquiry which we and other researchers may undertake with Asian American and Pacific Island people.

Future Project Reports

Future Project reports will expand on this preliminary report in at least six areas which are summarized below:

1. Patterns of learning characteristics in each ethnic group. Except for the findings of Lesser, Fifer, and Clark (1965) on patterns of mental abilities in a New York, Chinese sample, almost nothing is known about patterns of learning characteristics in Asian groups. Analysis of correlations among the tests which were administered to the children may provide information on such patterns. We expect to

find different patterns of learning characteristics in each ethnic group. With the information collected on family characteristics, we will be able to relate these learning patterns to socialization patterns in each ethnic group. We will also relate these patterns to demographic information collected by the Project.

Using multiple regression techniques, we may be able to assess the relative influence of various family and demographic variables in relation to specific learning characteristics and their patterns.

2. Patterns of family socialization. Information about family socialization patterns, including maternal attitudes and aspirations, will be analyzed to determine similarities and differences among the sample groups. As our literature review indicated, there is a paucity of information on family socialization processes among Asian American groups. The family socialization patterns will also be related to demographic variables such as parental educational level, family immigration history, and family structure.

3. Patterns of mother-child interaction. A separate report on patterns of mother-child interaction in a structured teaching situation and the relationship of mother and child behaviors to children's learning characteristics will be prepared by Takanishi. This report will focus on patterns of mother-child interaction in three ethnic groups (Chinese, Japanese, and Korean) which were observed in the teaching situation. Possible differential patterns for each ethnic group describing relationships between mother and child behavior and the child testing data will also be discussed.

4. Child's behavior in the testing situation. Research with White and Puerto Rican children indicated that children from different

ethnic groups respond differently to the testing situation (Hertzig, Birch, Thomas, & Mendez, 1968). Their behaviors in response to a cognitive demand in this situation may have implications for their behavior in the classroom setting. Test-taking behavior will be analyzed by ethnic group for purposes of exploring possible differences in responses to test situation demands.

5. Language behavior of the child. The language behavior of the child as assessed in the testing situation will be examined. Since our data indicate that patterns of language behavior differ according to ethnic group (Table 6), we intend to examine the relationship between language behavior and other tested competencies.

6. Memory processes and strategies. The memory data are being analyzed as part of a master's thesis by Laurie Garduque. This analysis will yield information on memory processes within each ethnic group as well as strategies which are employed by the children when they are engaged in a memory task.

Other reports may be published as a result of findings in the areas which we have outlined above.

Recommendations for Future Inquiry

Five recommendations for future inquiry are suggested by this preliminary report. As we analyze our data more in depth, other recommendations may emerge.

1. Replication of the present study. Our Project was limited in geographical region and sample size. A replication of this study should include a larger and more representative sample of children and families in each ethnic group to study more systematically influences

of immigration history, parental education, language spoken in the home, and family structure. Furthermore, replication of the study in other regions of the United States with concentrations of Asian people could provide information on possible differential responses to varying environmental and social conditions encountered by Asian groups. The limited research now available suggests that significant variations exist in measured ethnic identity between Japanese living in Hawaii and in Seattle (Masumoto, Meredith, & Masuda, 1970). Therefore, information about Asian Americans in Los Angeles cannot be generalized to similar groups in other parts of this country or the world (e.g. the Japanese in Brazil and Peru; the Chinese in Southeast Asia).

2. Studies of learning characteristics. Preliminary results of the child testing data indicate the need for additional studies on the learning characteristics of Asian and Pacific Island children. In conducting the child testing phase of the Project, we took the route of ability testing and standardized procedures. Three considerations prompted the decision to use mainly standardized test procedures: our limited resources, the time involved in test development, and the preliminary nature of our study. We considered this study as a first step in understanding the learning characteristics of the children. Our findings indicate that there are few obvious differences among the ethnic groups on the individual tests. However, the processes leading to similar performance and their development remain unknown. Furthermore, the predictive validity of the children's performance in terms of school achievement remains to be explored.

Future studies of learning characteristics should take seriously the notion of competency as outlined by Cole and Bruner (1972).

To reiterate, these authors suggest that differences in performance can be accounted for by the situations and contexts in which children of different ethnic groups find it appropriate to express their competence. If this is true, then there is an enormous assessment task ahead of us in terms of Brunswik's (1956) ideas of "representative design" and determination of the "ecological significance" of stimulation which is provided in standardized testing situations.

3. Relationships between nonverbal and verbal assessments of competence. For children who do not speak English as their first and primary language, assessment procedures which rely on experience with and knowledge of English symbols or words may be misleading indicators of the child's actual competency. Our data on quantitative concept development indicated that when English language symbols were added to assessment of quantitative concepts, the sample children performed less well than they did on items which did not require knowledge of English. This finding suggests that we should investigate conceptual development in relation to language development, particularly when a language or symbolic system unfamiliar to the participating children is used.

4. Studies of Asian American families. Our preliminary findings indicate that Asian American families in the specific ethnic groups are not homogeneous entities. Families vary in mother-child interaction, language used in the home, parental education, socialization practices and goals, and other features. Work on families is emerging into a wider conceptual perspective (Leichter, 1975). One of the most important implications for extending this present work is suggested by Slaughter's (1975) on-going work with Black families. Variations in family processes may be related to the participants'

interpretation of the mileu in which they are located. Thus as Slaughter (1975) suggests, there is a wide "value stretch" in Black, low-income families. This approach would be especially useful in looking at minority family socialization patterns in relation to the dominant culture.

There are different conceptualizations of minority groups in relation to the society to which they have immigrated. Controversies rage in academic circles regarding acculturation, on the one hand, and retention of traditional cultural values on the other (Schwarz, 1970). Studies of minority families adjusting to life in the larger culture are important to social planning, especially in the areas of mental and medical health and education. Such studies may provide information for the ethnic communities themselves should they choose to utilize such information in planning community programs.

5. Longitudinal studies. Data provided by this Project could be utilized for the design of longitudinal studies of Asian American children and their families. Such studies would be important in determining the relative influence of family, school, and other socializing agents in the environment on the development of the child. While this Project will provide information on the children's abilities and experiences prior to schooling, a longitudinal investigation could monitor changes in the child and family related to the former's entry into school.

Concluding Remarks

At the risk of being repetitive, we would like to underscore some limitations of our work. The Asian American Education Project

was the first step in providing information on Asian American children and their families. We intended that our work serve as a basis for future studies of either a descriptive or hypothesis-testing nature. Our sample was limited both in size and in the geographical area under study. Hence, we cannot offer conclusive information on Asian American groups in Los Angeles or elsewhere.

In summary, this preliminary report raises more questions than it provides answers. We hope that this report and others in the future will be useful to researchers, community workers, and members of ethnic groups. Our purpose was to generate ideas about and stimulate research on Asian and Pacific Island groups. Since the study's inception, we have been cognizant of its limitations in relation to the needs of families and communities. However, if these results suggest no more than the importance of regarding children and families as individuals within their ethnic groups, and the importance of obtaining a better understanding of people prior to any planning and intervention, we feel our efforts can be justified.

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